MINNESOTA DEPARTMENT OF TRANSPORTATION

THE CITY OF COON RAPIDS
ANOKA COUNTY

HANSON BOULEVARD/T.H. 10 INTERCHANGE

CONSTRUCTION PLANS FOR GRADING, AGGREGATE BASE, BITUMINOUS SURFACING, CONCRETE CURB AND GUTTER, CONCRETE SIDEWALK, LANDSCAPING, TMS, LIGHTING, UTILITY IMPROVEMENTS, TRAFFIC SIGNAL IMPROVEMENTS, BRIDGE No. 02567 and BRIDGE No. 95884

LOCATED ON: HANSON BOULEVARD **BETWEEN** 115th AVENUE NW **AND** COON CREEK

and: HANSON BOULEVARD / T.H.10/47 INTERCHANGE: RAMPS A, B, C, D **IN COON RAPIDS**

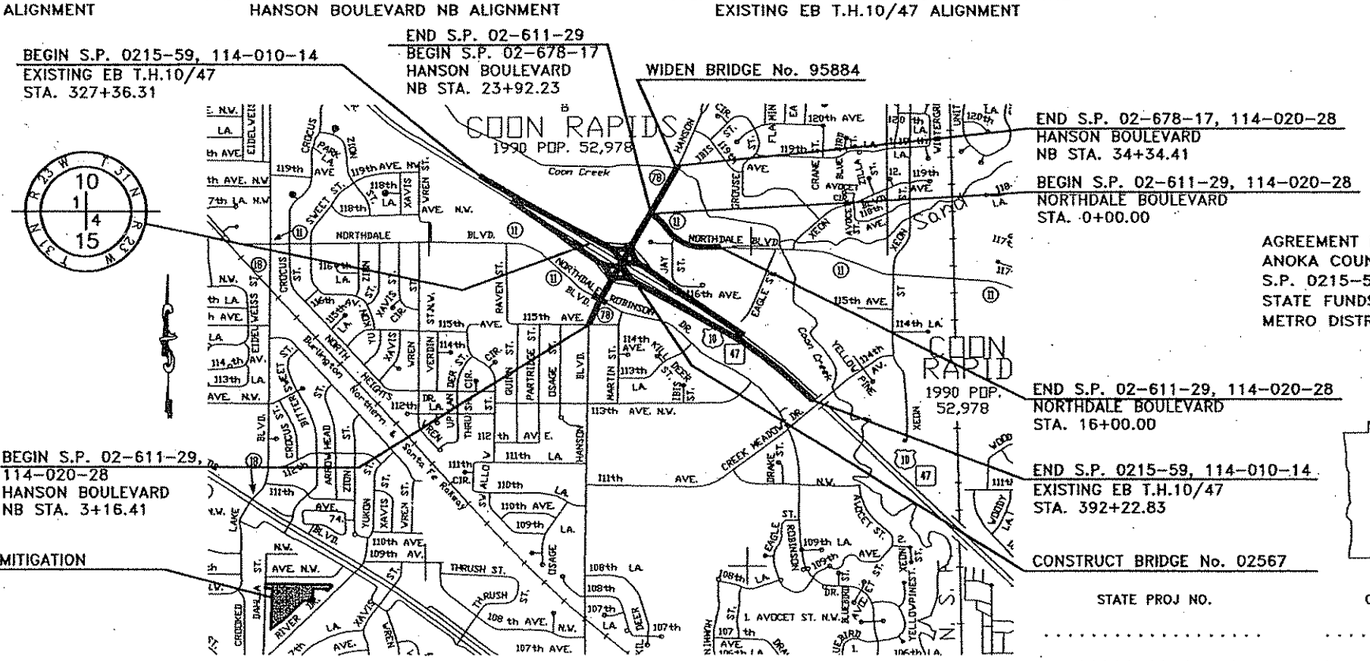
LOCATED ON: NORTHDALE BOULEVARD **BETWEEN** HANSON BOULEVARD **AND** 1020' EAST of JAY STREET **IN COON RAPIDS**

HANSON BOULEVARD
115th STREET NW to NORTHDALE BOULEVARD
STATE PROJ. No. 02-611-29, 114-020-28
GROSS-LENGTH 2075.82 FEET - 0.393 MILES
BRIDGE-LENGTH 193.00 FEET
EXCEPTIONS-LENGTH N.A.
NET-LENGTH 1882.82 FEET - 0.356 MILES
NOTE: LENGTH AND STATIONING BASED ON THE HANSON BOULEVARD NB ALIGNMENT

HANSON BOULEVARD
NORTHDALE BOULEVARD to COON CREEK
STATE PROJ. No. 02-678-17, 114-020-28
GROSS-LENGTH 1042.18 FEET - 0.197 MILES
BRIDGE-LENGTH N.A.
EXCEPTIONS-LENGTH N.A.
NET-LENGTH 1042.18 FEET - 0.197 MILES
NOTE: LENGTH AND STATIONING BASED ON THE HANSON BOULEVARD NB ALIGNMENT

T.H.10/47
STATE PROJ. No. 0215-59, 114-010-14
GROSS-LENGTH 6486.52 FEET - 1.229 MILES
BRIDGE-LENGTH N.A.
EXCEPTIONS-LENGTH N.A.
NET-LENGTH 6486.52 FEET - 1.229 MILES
REF. POINT 227+01.556 TO REF. POINT 229+00.676
NOTE: LENGTH AND STATIONING BASED ON THE EXISTING EB T.H.10/47 ALIGNMENT

NORTHDALE BOULEVARD
HANSON BOULEVARD to 1020' EAST of JAY STREET
STATE PROJ. No. 02-611-29, 114-020-28
GROSS-LENGTH 1600.00 FEET - 0.303 MILES
BRIDGE-LENGTH N.A.
EXCEPTIONS-LENGTH N.A.
NET-LENGTH 1600.00 FEET - 0.303 MILES



DESIGN DESIGNATION: HANSON BOULEVARD – (S.P. 02-611-29, 114-020-28)
from: 115th AVENUE NW **to** T.H.10/47
Functional Classification: MINOR ARTERIAL
No. of Traffic Lanes = 6 **No. of Parking Lanes** = 0
ADT (Current Year) 2004 = 31,500 **Design Speed** 40 MPH
ADT (Future Year) 2024 = 50,600 **Based on** STOPPING Sight Distance
DHV (Design Hr. Vol.) = N.A. **Height of eye** 3.5' **Height of Object** 2.0'
D (Directional Distr.) = 0.35 % **Design Speed not achieved at:** N.A.
T (Heavy Commercial) = 7.0 % **STA.** N.A. **TO STA.** N.A. **MPH** N.A.
R-Value 60 **20 YR ESALS** 6,300,000 **Design Load** 10 ton

DESIGN DESIGNATION: HANSON BOULEVARD – (S.P. 02-611-29, 114-020-28)
from: T.H.10/47 **to** NORTHDALE BOULEVARD
Functional Classification: MINOR ARTERIAL
No. of Traffic Lanes = 6 **No. of Parking Lanes** = 0
ADT (Current Year) 2004 = 36,700 **Design Speed** 40 MPH
ADT (Future Year) 2024 = 58,900 **Based on** STOPPING Sight Distance
DHV (Design Hr. Vol.) = N.A. **Height of eye** 3.5' **Height of Object** 2.0'
D (Directional Distr.) = 0.35 % **Design Speed not achieved at:** N.A.
T (Heavy Commercial) = 7.0 % **STA.** N.A. **TO STA.** N.A. **MPH** N.A.
R-Value 60 **20 YR ESALS** 7,300,000 **Design Load** 10 ton

DESIGN DESIGNATION: HANSON BOULEVARD – (S.P. 02-678-17, 114-020-28)
from: NORTHDALE BOULEVARD **to** COON CREEK
Functional Classification: MINOR ARTERIAL
No. of Traffic Lanes = 6-4 **No. of Parking Lanes** = 0
ADT (Current Year) 2004 = 28,800 **Design Speed** 45 MPH
ADT (Future Year) 2024 = 46,200 **Based on** STOPPING Sight Distance
DHV (Design Hr. Vol.) = N.A. **Height of eye** 3.5' **Height of Object** 2.0'
D (Directional Distr.) = 0.35 % **Design Speed not achieved at:** N.A.
T (Heavy Commercial) = 7.0 % **STA.** N.A. **TO STA.** N.A. **MPH** N.A.
R-Value 60 **20 YR ESALS** 5,800,000 **Design Load** 10 ton

DESIGN DESIGNATION: NORTHDALE BOULEVARD – (S.P. 02-611-29, 114-020-28)
Functional Classification: COLLECTOR
No. of Traffic Lanes = 4-2 **No. of Parking Lanes** = 0
ADT (Current Year) 2004 = 14,600 **Design Speed** 45 MPH
ADT (Future Year) 2024 = 23,400 **Based on** STOPPING Sight Distance
DHV (Design Hr. Vol.) = N.A. **Height of eye** 3.5' **Height of Object** 2.0'
D (Directional Distr.) = 0.45 % **Design Speed not achieved at:** X
T (Heavy Commercial) = 9.6 % **STA** 0+00 **TO STA** 10+80 **MPH** 40
R-Value 60 **20 YR ESALS** 5,500,000 **Design Load** 10 ton

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

DATE Lic. No.

FEDERAL PROJ. No. STPX 0207 (020)

GOVERNING SPECIFICATIONS AS AMENDED

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL SIGNING AND DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

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462-486	TRAFFIC MANAGEMENT SYSTEM PLANS
487-518	TRAFFIC SIGNAL PLANS
519-523	POND GRADING PLANS
524-527	CROSS SECTION MATCH LINE LAYOUT
528-681	CROSS SECTIONS
B1-B8	COON CREEK BRIDGE PLANS
W1-W9	DAHLIA PARK WETLAND MITIGATION

THIS PLAN SET CONTAINS 708 SHEETS

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

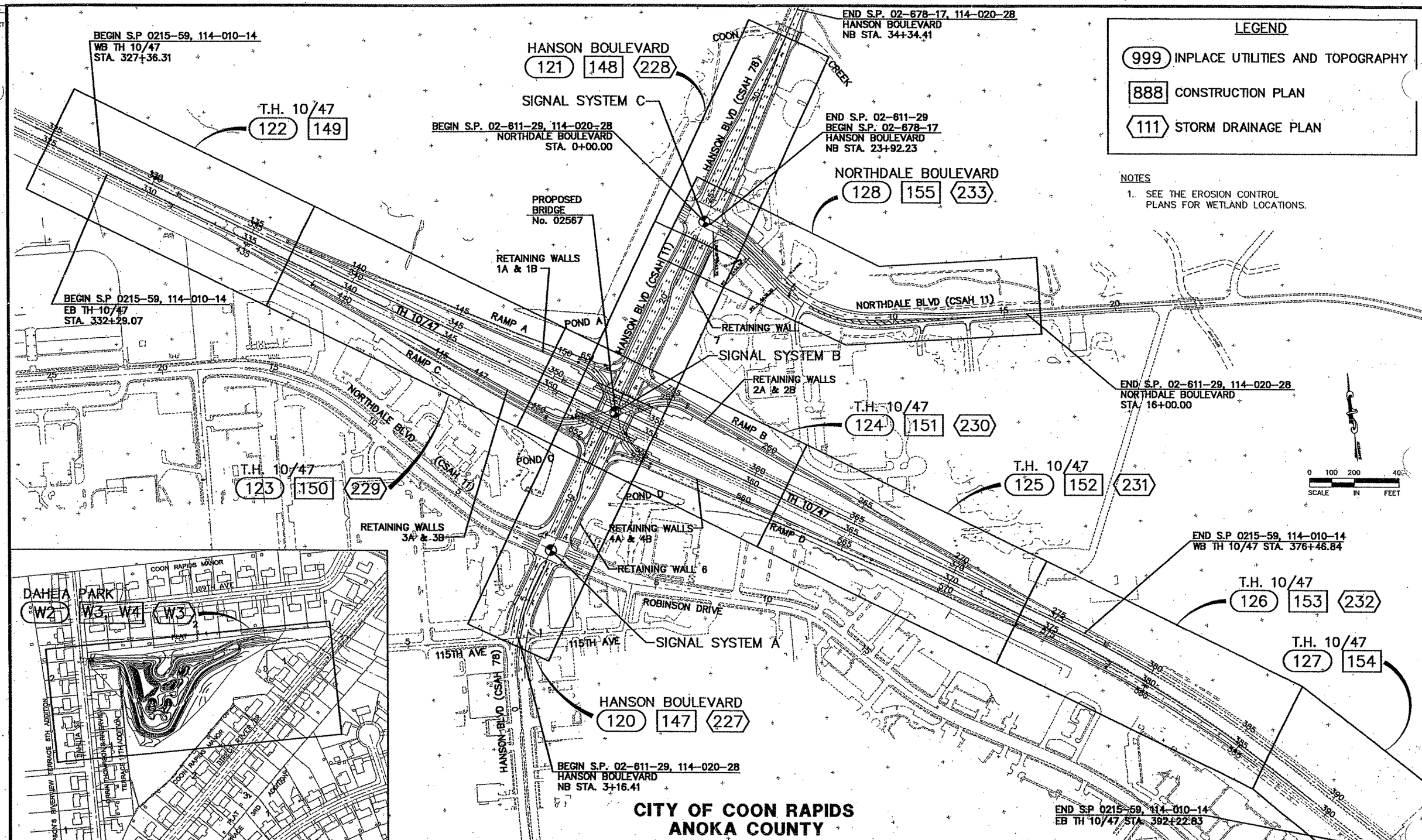
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

DATE 1/8/2007 Lic. No. 19881
ENGINEER Karl P. Keel
KARL P. KEEL, P.E.
DESIGN SQUAD SAW, JCD, PMJ, IKR, JRM, BJK, KG, RC, MK

Approved Jon D. Hoxie 1/8 2007
CITY OF COON RAPIDS ENGINEER
Approved Robert N. Tinklenberg 1/8 2007
ANOKA COUNTY ENGINEER
Recommended for Approval Mark Dahl 1-9 2007
DISTRICT TRANSPORTATION ENGINEER
Recommended for Approval Brian M. Simerson 1/9 2007
DISTRICT MATERIALS ENGINEER
Recommended for Approval Curt A. Wery 1/11 2007
FOR DISTRICT WATER RESOURCES ENGINEER
Recommended for Approval Nancy Daubenberger 1/11 2007
for DISTRICT TRAFFIC ENGINEER
Recommended for Approval Lee R. Emerson 1/12 2007
FOR STATE PRE-LETTING ENGINEER
Office of Land Management Approval Jill Hutchison 1-17 2007
DIRECTOR, LAND MANAGEMENT
Approved Mark A. Kuss Jan 17 2007
STATE DESIGN ENGINEER
State Aid Approvals Dan E. Larson 1/9 2007
DISTRICT STATE AID ENGINEER
REVIEWED FOR COMPLIANCE WITH STATE AND FEDERAL AID RULES/POLICY
Kevin Gutknecht 1-9 2007
APPROVED FOR STATE AND FEDERAL AID FUNDING: STATE AID ENGINEER

C.P. NO. 01-31 02-678-17
S.P. NO. 0215-59 (T.H.10=62), 114-020-28, 02-611-29, 114-010-14 SHEET NO. 1 OF 681 SHEETS

PLOT DATE: Jan 0 8:51am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-CV01.



CITY OF COON RAPIDS
ANOKA COUNTY

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: GLO
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
HANSON BOULEVARD
GENERAL LAYOUT

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 2
681

PLOT DATE: Jan 2007 10:06am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-GL

MINNESOTA DEPARTMENT OF TRANSPORTATION

THE CITY OF COON RAPIDS
ANOKA COUNTY

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and: HANSON BOULEVARD / T.H.10/47 INTERCHANGE: RAMPS A, B, C, D **IN COON RAPIDS**

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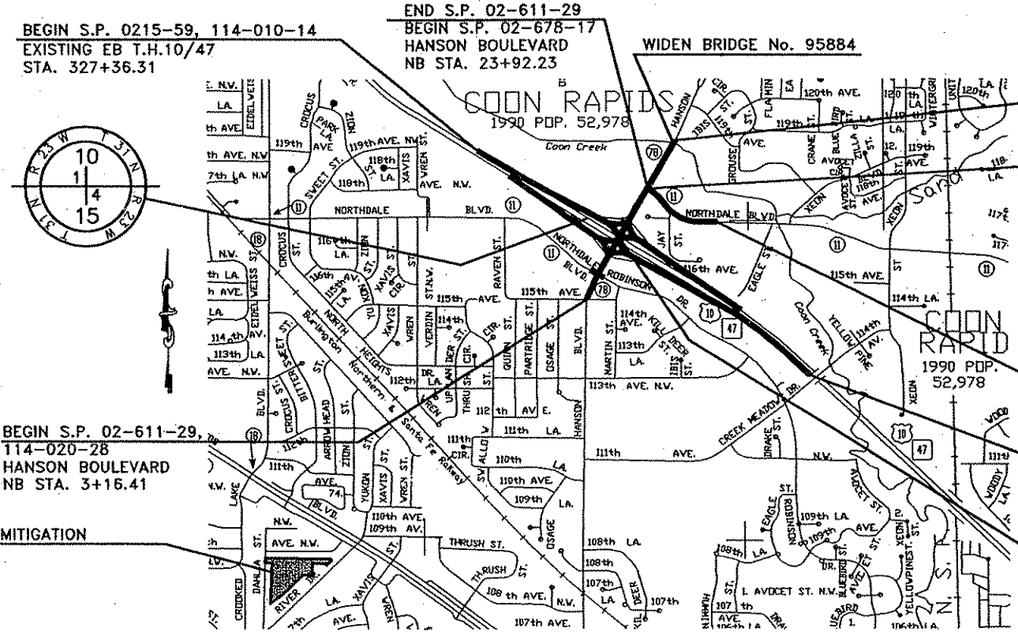
BEGIN S.P. 0215-59, 114-010-14
EXISTING EB T.H.10/47
STA. 327+36.31

END S.P. 02-611-29
BEGIN S.P. 02-678-17
HANSON BOULEVARD
NB STA. 23+92.23

WIDEN BRIDGE No. 95884

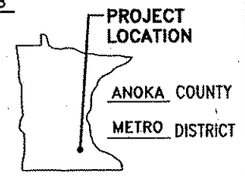


SCALES IN FEET

INDEX MAP: 0 650 1250 2500
ALIGNMENT: 0 50 100 200
PLAN: 0 25 50 100
PROFILE: 0 25 50 100 HORIZONTAL SCALE; 0 5 10 VERTICAL SCALE
CROSS SECTIONS: 0 5 10 20

DAHLIA PARK WETLAND MITIGATION
S.P. 0215-59
S.P. 02-611-29
S.P. 02-678-17
S.P. 114-020-28
S.P. 114-010-14

PROJECT LOCATION



STATE PROJ NO. .....
CHARGE IDENTIFIER .....

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D (Directional Distr.) = 0.35 % Design Speed not achieved at: N.A.
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R-Value 60 20 YR ESALS 6,300,000 Design Load 10 ton

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D (Directional Distr.) = 0.45 % Design Speed not achieved at: X
T (Heavy Commercial) = 9.6 % STA. 0+00 TO STA. 10+80 MPH 40
R-Value 60 20 YR ESALS 5,500,000 Design Load 10 ton

PLAN REVISIONS

DATE	SHEET NO.	APPROVED BY

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DATE 1/8/2007 Lic. No. 19681
ENGINEER Karl P. Keel
KARL P. KEEL, P.E.
DESIGN SQUAD SAW, JCD, PMJ, IKR, JRM, BJK, KG, RC, MK

Approved CITY OF COON RAPIDS ENGINEER 1/8 2007
Approved ANOKA COUNTY ENGINEER 1/8 2007
Recommended for Approval FOR DISTRICT TRANSPORTATION ENGINEER 1/9 2007
Recommended for Approval DISTRICT MATERIALS ENGINEER 1/9 2007
Recommended for Approval FOR DISTRICT WATER RESOURCES ENGINEER 1/11 2007
Recommended for Approval for DISTRICT TRAFFIC ENGINEER 1/11 2007
Recommended for Approval FOR STATE PRE-LETTING ENGINEER 1/12 2007
Office of Land Management Approval DIRECTOR, LAND MANAGEMENT 1-17 2007
Approved STATE DESIGN ENGINEER Jan 17 2007
State Aid Approvals DISTRICT STATE AID ENGINEER 1/9 2007
REVIEWED FOR COMPLIANCE WITH STATE AND FEDERAL AID RULES/POLICY 1-12 2007
APPROVED FOR STATE AND FEDERAL AID FUNDING: STATE AID ENGINEER

C.P. NO. 01-31 02-678-17
S.P. NO. 0215-59 (T.H.10=62), 114-020-28, 02-611-29, 114-010-14 SHEET NO. 1 OF 681 SHEETS

PLOT DATE: Jan 0 8:51am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SH1\PRD-CONST\042-CV01.c

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ISN-ETO
ISN-PCO
ISN-ALI
F-DWG-BDR
x34bdr

BEGIN S.P 0215-59, 114-010-14
WB TH 10/47
STA. 327+36.31

BEGIN S.P 0215-59, 114-010-14
EB TH 10/47
STA. 332+29.07

T.H. 10/47
122 149

T.H. 10/47
123 150 229

HANSON BOULEVARD
121 148 228

SIGNAL SYSTEM C

BEGIN S.P. 02-611-29, 114-020-28
NORTHDALE BOULEVARD
STA. 0+00.00

END S.P. 02-678-17, 114-020-28
HANSON BOULEVARD
NB STA. 34+34.41

END S.P. 02-611-29
BEGIN S.P. 02-678-17
HANSON BOULEVARD
NB STA. 23+92.23

NORTHDALE BOULEVARD
128 155 233

PROPOSED
BRIDGE
No. 02567

RETAINING WALLS
1A & 1B

RETAINING WALL 1

SIGNAL SYSTEM B

RETAINING WALLS
2A & 2B

T.H. 10/47
124 151 230

T.H. 10/47
125 152 231

END S.P. 02-611-29, 114-020-28
NORTHDALE BOULEVARD
STA. 16+00.00

END S.P 0215-59, 114-010-14
WB TH 10/47 STA. 376+46.84

T.H. 10/47
126 153 232

T.H. 10/47
127 154

END S.P 0215-59, 114-010-14
EB TH 10/47 STA. 392+22.83

RETAINING WALLS
3A & 3B

RETAINING WALLS
4A & 4B

RETAINING WALL 6

SIGNAL SYSTEM A

HANSON BOULEVARD
120 147 227

BEGIN S.P. 02-611-29, 114-020-28
HANSON BOULEVARD
NB STA. 3+16.41

HANSON BLVD (CSAH 78)

HANSON BLVD (CSAH 11)

NORTHDALE BLVD (CSAH 11)

NORTHDALE BLVD

POND A

POND C

POND D

RAMP A

RAMP B

RAMP C

RAMP D

TH 10/47

COON CREEK

ROBINSON DRIVE

115TH AVE

109TH AVE

COON RAPIDS MANOR

DAHEA PARK
W2 W3 W4 W3

LEGEND

999 INPLACE UTILITIES AND TOPOGRAPHY

888 CONSTRUCTION PLAN

111 STORM DRAINAGE PLAN

NOTES

1. SEE THE EROSION CONTROL PLANS FOR WETLAND LOCATIONS.

SCALE 0 100 200 400 IN FEET

CITY OF COON RAPIDS
ANOKA COUNTY

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: GLO
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

GENERAL LAYOUT

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 2 / 681

PLOT DATE: Jan 007 10:06am DISK FILE NAME: (16.1) R:\33689\33889042\PLAN-SHT\PRD-CONST\042-GL

xref's Drawings
karl-keel-sig
REF-DWG-BD
22x34bdr

STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	NOTES	UNIT	PROJECT TOTALS	PARTICIPATING				NON-PART.	
							INTERCHANGE S.P. 0215-59 S.P. 114-010-14	CSAH S.P. 02-611-29 S.P. 114-020-28	CSAH S.P. 02-678-17 S.P. 114-020-28	STORM SEWER	100% LOCAL	LANDSCAPE [24] S.P. 114-010-14 S.P. 114-020-28
							ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY
		2021.501	MOBILIZATION		LUMP SUM	1	0.58	0.24	0.08	0.06	0.01	0.03
		2031.501	FIELD OFFICE TYPE D MODIFIED		EACH	1	0.58	0.24	0.08	0.06	0.01	0.03
		2031.503	FIELD LABORATORY TYPE D MODIFIED		EACH	1	0.58	0.24	0.08	0.06	0.01	0.03
		2041.610	TRAINEES		HOUR	3500	3500					
B,AM	21,W1	2101.502	CLEARING		TREE	118	72	41	5			
B,AM	21,W1	2101.507	GRUBBING		TREE	118	72	41	5			
X	278	2102.501	PAVEMENT MARKING REMOVAL - PERMANENT		SQ FT	50	50					
X	278	2102.502	PAVEMENT MARKING REMOVAL		LIN FT	19070	14255	4655	160			
X	278	2102.502	PAVEMENT MARKING REMOVAL - PERMANENT		LIN FT	17615	16340	455	820			
D	22-24	2104.501	REMOVE CONCRETE CULVERT		LIN FT	608	558	50				
D	22-24	2104.501	REMOVE METAL CULVERT		LIN FT	215		215				
S	33	2104.501	REMOVE WATER MAIN		LIN FT	188			188			
D	22-24	2104.501	REMOVE SEWER PIPE (STORM)		LIN FT	3081	1119	1763	199			
E	25	2104.501	REMOVE CURB AND GUTTER		LIN FT	15718	8188	5539	1991			
		2104.501	REMOVE WOOD EDGER	9	LIN FT	280		280				
F	21	2104.501	REMOVE CABLE GUARD RAIL		LIN FT	178	178					
F	21	2104.501	REMOVE GUARD RAIL-PLATE BEAM		LIN FT	1385	1225	160				
C	21	2104.501	REMOVE CHAIN LINK FENCE		LIN FT	1760	1760					
G	25	2104.503	REMOVE CONCRETE WALK	4	SQ FT	35625	5759	24545	5321			
G	25	2104.503	REMOVE CONCRETE NOSE	4	SQ FT	583	375	208				
G	25	2104.503	REMOVE CONCRETE APPROACH PANEL	4	SQ FT	342	342					
G	25	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	4	SQ YD	275		155	120			
H	26	2104.505	REMOVE BITUMINOUS SURFACING	4	SQ YD	497		344	153			
H	26	2104.505	REMOVE BITUMINOUS PAVEMENT	4	SQ YD	58580	22973	29521	6086			
D	22-24	2104.509	REMOVE MANHOLE OR CATCH BASIN		EACH	68	26	36	6			
D	22-24	2104.509	REMOVE MISCELLANEOUS STRUCTURES	13	EACH	1	1					
D	22-24	2104.509	REMOVE CONCRETE APRON		EACH	39	33	4	2			
D	22-24	2104.509	REMOVE METAL APRON		EACH	3		3				
D	22-24	2104.509	REMOVE CASTING		EACH	1		1				
Y	448	2104.509	REMOVE LIGHT BASE		EACH	1		1				
	463	2104.509	REMOVE FOUNDATION	11	EACH	6	6					
		2104.509	REMOVE TELEPHONE VAULT		EACH	1		1				
F	21	2104.509	REMOVE ANCHORAGE ASSEMBLY - CABLE		EACH	4	4					
F	21	2104.509	REMOVE ANCHORAGE ASSEMBLY - PLATE BEAM		EACH	1		1				
F	21	2104.509	REMOVE ECCENTRIC LOADER BCT		EACH	7	6	1				
I	26	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	15	LIN FT	133	30	89	14			
I	26	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN FT	19005	7828	8497	2680			
	463	2104.523	SALVAGE CCTV HARDWARE		EACH	1	1					
S	33	2104.523	SALVAGE HYDRANT & VALVE		EACH	1		1				
S	33	2104.523	SALVAGE HYDRANT		EACH	1			1			
D, AM	22-24, W1	2104.523	SALVAGE CONCRETE APRON		EACH	4	3		1			
	463	2104.523	SALVAGE RAMP CONTROL SIGNAL		EACH	2	2					
	463	2104.523	SALVAGE FIBER OPTIC VAULT		EACH	1	1					
	463	2104.523	SALVAGE CABINET		EACH	1	1					
AK	401	2104.523	SALVAGE SIGN TYPE SPECIAL		EACH	4		2	2			
AG	397	2104.523	SALVAGE SIGN TYPE A		EACH	2	2					
AH	399	2104.523	SALVAGE SIGN TYPE C		EACH	124	41	71	12			
AI,AJ	400	2104.523	SALVAGE SIGN TYPE D		EACH	10	9	1				
AA	401	2104.523	SALVAGE DELINEATOR		EACH	48	40	7	1			
Y	448	2104.523	SALVAGE LIGHTING UNIT		EACH	1		1				
		2104.601	HAUL SALVAGED MATERIAL	19,21	LUMP SUM	1				1		
AM	W1	2104.601	REMOVE BOULDERS		LUMP SUM	1	1					
	467	2104.601	SALVAGE SIGNAL SYSTEM A		LUMP SUM	1	1					
	467	2104.601	SALVAGE SIGNAL SYSTEM B		LUMP SUM	1	1					
A	10-19	2105.501	COMMON EXCAVATION (P)		CU YD	202472	163193	33501	5778			
A	10-19	2105.505	MUCK EXCAVATION		CU YD	51362	44158	4706	2498			
A	10-19	2105.507	SUBGRADE EXCAVATION (P)		CU YD	42271	14545	19585	8141			
A	10-19	2105.521	GRANULAR BORROW (LV)		CU YD	38148	38148					
J,AM	27,W1	2105.522	SELECT GRANULAR BORROW (CV) (P)		CU YD	47374	23929	17332	6113			
A	10-19	2105.522	SELECT GRANULAR BORROW MOD 10% (CV) (P)		CU YD	9713	8694	1019				
A	10-19	2105.522	SELECT GRANULAR BORROW MOD 5% (CV) (P)		CU YD	9071	8686					385
A	10-19	2105.522	SELECT GRANULAR BORROW MODIFIED (LV)		CU YD	54116	47718	4514	1884			
A	10-19	2105.525	TOPSOIL BORROW (LV)		CU YD	23161	17903	4610	648			
A	10-19	2105.526	SELECT TOPSOIL BORROW (LV) (P)	26	CU YD	6705	6195					510
		2105.604	COMPOSITE LINER (P)	14	SQ YD	5820						5820
		2105.604	GEOTEXTILE FABRIC TYPE V	25	SQ YD	1818	730	1088				
A	19	2105.607	WOOD CHIPS (CV)		CU YD	500	500					
		2130.501	WATER		M GALLONS	550	450	75	25			
	226	2201.501	CONCRETE BASE		SQ YD	3119	3119					
	226	2201.511	STRUCTURAL CONCRETE		CU YD	1668	1668					
	226	2201.529	REINFORCEMENT BARS (EPOXY COATED)		POUND	161800	161800					
	226	2201.536	DOWEL BAR		EACH	273	273					

SEE SHEET 6 OF 6 FOR NOTES

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: JCD | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: SEQTAB-1
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE
STATEMENT OF ESTIMATED QUANTITIES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 3 / 681

PLOT DATE: Jan 16, 07 3:21pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH\SEQTAB-1.dwg

Xref'd Drawings
REF-DWG-BD
22x34bdr

STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	NOTES	UNIT	PROJECT TOTALS	PARTICIPATING				NON-PART.	
							INTERCHANGE S.P. 0215-59 S.P. 114-010-14	CSAH S.P. 02-611-29 S.P. 114-020-28	CSAH S.P. 02-678-17 S.P. 114-020-28	STORM SEWER	100% LOCAL	LANDSCAPE [24] S.P. 114-010-14 S.P. 114-020-28
							ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY
J	27	2211.503	AGGREGATE BASE (CV) CLASS 5 (P)		CU YD	24677	11846	9926	2905			
J	27	2221.501	AGGREGATE SHOULDERING CLASS 2		TON	735	620	115				
		2232.501	MILL BITUMINOUS SURFACE (2.0")		SQ YD	400			400			
	226	2301.531	EXPANSION JOINTS DESIGN E1D-1		LIN FT	284	284					
Q	177	2301.553	BRIDGE APPROACH PANELS (P)		SQ YD	532	532					
Q	177	2301.553	BRIDGE APPROACH PANELS DES A (P)		SQ YD	1038	1038					
K	28	2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	8248	4139	3198	911			
P	32	2357.608	BITUMINOUS MATERIAL FOR SHOULDER TACK		POUND	326	288	38				
K	28	2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (4,F)		TON	19829	9955	7699	2175			
K	28	2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (3,F)		TON	58		22	36			
K	28	2360.502	TYPE SP 12.5 NON WEAR COURSE MIXTURE (4,C)		TON	14810	6564	6583	1663			
		2360.505	TYPE SP 12.5 BIT MIXTURE FOR PATCHING	2	TON	100		100				
	B1	2401.501	STRUCTURAL CONCRETE (3Y43)		CU YD	7			7			
	B1	2401.501	STRUCTURAL CONCRETE (1A43)		CU YD	43			43			
	226	2401.513	TYPE F (TL-4) RAILING CONCRETE (3Y46) (P)		LIN FT	2080	2080					
	B1	2401.541	REINFORCEMENT BARS		POUND	3280			3280			
	B1	2401.541	REINFORCEMENT BARS (EPOXY COATED)		POUND	790			790			
	B1	2401.601	FOUNDATION PERPARATION		LUMP SUM	1			1			
	B1	2401.601	STRUCTURE EXCAVATION		LUMP SUM	1			1			
	205, 217	2402.583	ORNAMENTAL METAL RAILING	17	LIN FT	499		499				
	205	2411.501	STRUCTURAL CONCRETE (1A43)		CU YD	140		140				
	205	2411.501	STRUCTURAL CONCRETE (3Y43)		CU YD	299		299				
A	10-19	2411.511	STRUCTURE EXCAVATION, CLASS E (P)	5	CU YD	1224	174	1050				
	205	2411.541	REINFORCEMENT BARS		POUND	14115		14115				
	205	2411.541	REINFORCEMENT BARS (EPOXY COATED)		POUND	23927		23927				
	197	2411.604	MECHANICALLY STABILIZED EARTH WALL		SQ YD	3441	3441					
	B1	2411.604	PRECAST CONCRETE WALL		SQ YD	30			30			
	B1	2411.604	PRECAST RETAINING WALL PANELS		SQ YD	50			50			
	B1	2433.501	STRUCTURE REMOVALS		LUMP SUM	1			1			
	B1, B5	2451.503	GRANULAR BACKFILL (MOD) CV		CU YD	30			30			
	B1	2451.507	GRANULAR BEDDING (CV)		CU YD	153			153			
W	246	2501.511	36" CS PIPE CULVERT		LIN FT	35		35				
U,W	240-242, 246	2501.515	36" GS PIPE APRON		EACH	2		2				
U,W	240-242, 246	2501.515	15" RC PIPE APRON		EACH	4				4		
U,W	240-242, 246	2501.515	18" RC PIPE APRON		EACH	6		4		2		
U,W	240-242, 246	2501.515	24" RC PIPE APRON		EACH	5	3			2		
U	240-242	2501.515	27" RC PIPE APRON		EACH	1				1		
U,W	240-242, 246	2501.515	30" RC PIPE APRON		EACH	8	1	4		3		
U,W	240-242, 246	2501.515	36" RC PIPE APRON		EACH	2		2				
U,W	240-242, 246	2501.515	42" RC PIPE APRON		EACH	2				2		
U,W	240-242, 246	2501.515	54" RC PIPE APRON		EACH	1				1		
W	246	2501.521	51" SPAN RC PIPE-ARCH CULV CL IIA	1	LIN FT	160	160					
W	246	2501.521	58" SPAN RC PIPE-ARCH CULV CL IIA	1	LIN FT	80	80					
W	246	2501.525	51" SPAN RC PIPE-ARCH APRON		EACH	4	4					
W	246	2501.525	58" SPAN RC PIPE-ARCH APRON		EACH	2	2					
U	240-242	2501.525	73" SPAN RC PIPE-ARCH APRON		EACH	1				1		
W	246	2501.561	18" RC PIPE CULVERT DES 3006		LIN FT	158	86	72				
W	246	2501.561	24" RC PIPE CULVERT DES 3006 CLASS V		LIN FT	467	467					
W	246	2501.561	30" RC PIPE DES 3006 CULVERT		LIN FT	94		94				
W	246	2501.561	30" RC PIPE CULVERT DES 3006 CLASS V		LIN FT	566	212	354				
W	246	2501.561	36" RC PIPE CULVERT DES 3006		LIN FT	8		8				
U,W	240-242, 246, 249	2501.567	18" CS SAFETY APRON & GRATE DES 3128	22	EACH	4	4					
U,W	240-242, 246	2501.569	15" RC SAFETY APRON		EACH	5				5		
U,W	240-242, 246	2501.569	18" RC SAFETY APRON		EACH	4	2			2		
W	246	2501.569	24" RC SAFETY APRON		EACH	3	3					
W	246	2501.569	30" RC SAFETY APRON		EACH	1	1					
U, AM	240-242, W1	2501.573	INSTALL CONCRETE APRON		EACH	4	1			3		
U,W	240-242, 246, 249	2501.602	TRASH GUARD FOR 30" PIPE APRON		EACH	3				3		
U,W	240-242, 246, 249	2501.602	TRASH GUARD FOR 42" PIPE APRON		EACH	2				2		
		2501.603	CLEAN PIPE CULVERT		LIN FT	480	480					
	B1	2501.603	PRECAST REINFORCED CONCRETE ARCH 40'X10'		LIN FT	12			12			
		2502.541	4" PERF PE PIPE DRAIN	29	LIN FT	200		200				
		2502.601	IRRIGATION SYSTEM PROVISION		LUMP SUM	1		1				
	198, 202, 205	2502.601	DRAINAGE SYSTEM	36	LUMP SUM	1	0.67	0.33				
U	240-242	2503.521	73" SPAN RC PIPE-ARCH SEWER CLASS IIA		LIN FT	108				108		

SEE SHEET 6 OF 6 FOR NOTES

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
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DESIGN FILE: 33889-042
DRAWN BY: JCD | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: SEQTAB-2
DATE: NOVEMBER 10, 2006

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Thresher Square
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S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 4 / 681

PLOT DATE: Jan 10, 07 3:21pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH\SEQTAB-2.dwg

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							ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY
U	240-242	2503.541	12" RC PIPE SEWER DES 3006		LIN FT	41				41		
U	240-242	2503.541	15" RC PIPE SEWER DES 3006		LIN FT	3887				3887		
U	240-242	2503.541	15" RC PIPE SEWER DES 3006 CL III	1	LIN FT	916				916		
U	240-242	2503.541	15" RC PIPE SEWER DES 3006 CL V		LIN FT	169				169		
U	240-242	2503.541	18" RC PIPE SEWER DES 3006		LIN FT	908				908		
U	240-242	2503.541	18" RC PIPE SEWER DES 3006 CL V		LIN FT	92				92		
U	240-242	2503.541	21" RC PIPE SEWER DES 3006		LIN FT	266				266		
U	240-242	2503.541	24" RC PIPE SEWER DES 3006		LIN FT	461				461		
U	240-242	2503.541	24" RC PIPE SEWER DES 3006 CL V		LIN FT	102				102		
U	240-242	2503.541	27" RC PIPE SEWER DES 3006		LIN FT	488				488		
U	240-242	2503.541	27" RC PIPE SEWER DES 3006 CL IV		LIN FT	300				300		
U	240-242	2503.541	30" RC PIPE SEWER DES 3006		LIN FT	357				357		
U	240-242	2503.541	30" RC PIPE SEWER DES 3006 CL IV	1	LIN FT	100				100		
U	240-242	2503.541	36" RC PIPE SEWER DES 3006		LIN FT	9				9		
U	240-242	2503.541	42" RC PIPE SEWER DES 3006		LIN FT	388				388		
U	240-242	2503.541	42" RC PIPE SEWER DES 3006 CL III	1	LIN FT	179				179		
U	240-242	2503.541	42" RC PIPE SEWER DES 3006 CL IV	1	LIN FT	214				214		
AM	W1	2503.541	48" RC PIPE SEWER DES 3006	1	LIN FT	16				16		
U,W,AM	240-242, 246,W1	2503.602	CONNECT TO EXISTING STORM SEWER		EACH	26	12	2		12		
		2504.601	TEMPORARY WATER SERVICE	30	LUMP SUM	1			1			
S	33	2504.602	CONNECT TO EXISTING WATER MAIN		EACH	8		3	5		1	
S	33	2504.602	HYDRANT		EACH	1						
S	33	2504.602	INSTALL HYDRANT & VALVE		EACH	1		1				
S	33	2504.602	ADJUST VALVE BOX		EACH	6		4	2			
S	33	2504.602	8" PIPE PLUG		EACH	1			1			
S	33	2504.602	10" PIPE PLUG		EACH	1			1			
S	33	2504.602	8"X6" TEE FITTING		EACH	1			1			
S	33	2504.602	10"X12" TEE FITTING		EACH	1			1			
S	33	2504.602	12" PIPE BEND 90 DEGREE		EACH	1			1			
S	33	2504.602	24" SLEEVE		EACH	5		2	3			
S	33	2504.602	1.5" CORPORATION STOP		EACH	1			1			
S	33	2504.602	1.5" CURB STOP & BOX		EACH	1			1		1	
S	33	2504.602	12" PIPE PLUG		EACH	1						
S	33	2504.602	VALVE OPERATOR EXTENSION		EACH	1		1				
S	33	2504.602	6" GATE VALVE AND BOX		EACH	1			1			
S	33	2504.602	24" BUTTERFLY VALVE		EACH	3		2	1			
S	33	2504.602	RECONNECT WATER SERVICE		EACH	1			1			
S	33	2504.603	1.5" TYPE K COPPER PIPE		LIN FT	20			20			
S	33	2504.603	6" WATERMAIN DUCTILE IRON CL 52		LIN FT	15		10	5			
S	33	2504.603	8" WATERMAIN DUCTILE IRON CL 52		LIN FT	31			31			
S	33	2504.603	10" WATERMAIN DUCTILE IRON CL 52		LIN FT	33			33			
S	33	2504.603	12" WATERMAIN DUCTILE IRON CL 52		LIN FT	162			162			
S	33	2504.603	24" WATERMAIN DUCTILE IRON CL 52		LIN FT	10		10				
S	33	2504.603	WATERMAIN DUCTILE IRON CL 52	6	LIN FT	184			184			
S,AM	33, W1	2504.604	4" POLYSTYRENE INSULATION		SQ YD	604	277		327			
V	243-245	2506.501	CONST. DRAINAGE STRUCTURE DESIGN G		LIN FT	108.8				108.84		
V	243-245	2506.501	CONST. DRAINAGE STRUCTURE DESIGN H		LIN FT	114.1				114.09		
V	243-245	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 48-4020		LIN FT	249.3				249.30		
V	243-245	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 54-4020		LIN FT	13.6				13.62		
V	243-245	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 60-4020		LIN FT	11.1				11.13		
V	243-245	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 66-4020		LIN FT	30.5				30.53		
V	243-245	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 72-4020		LIN FT	16.1				16.12		
V,AM	243-245, W1	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 84-4020		LIN FT	14.2				14.19		
V	243-245	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 90-4020		LIN FT	7.0				7.01		
V	243-245	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 102-4020		LIN FT	11.6				11.59		
T	33	2506.503	RECONSTRUCT DRAINAGE STRUCTURE	20	LIN FT	5		5				
V, AM	243-245, WI	2506.516	CASTING ASSEMBLY		EACH	109				109		
T	33	2506.521	INSTALL CASTING		EACH	1		1				
T	33	2506.522	ADJUST FRAME AND RING CASTING		EACH	3		3				
V	243-245	2506.602	CONST. DRAINAGE STRUCTURE DESIGN SPECIAL 1	10	EACH	1					1	
V	243-245, 248	2506.602	CONST. DRAINAGE STRUCTURE DESIGN SPECIAL 2	16	EACH	1				1		
V	243-245, 248	2506.602	CONST. DRAINAGE STRUCTURE DESIGN SPECIAL 3	27	EACH	1				1		
AM	W1, W5	2506.602	CONST. DRAINAGE STRUCTURE DESIGN SPECIAL 4	28	EACH	1	1					
U,W,AM	240-242,246,W1	2511.501	RANDOM RIPRAP CLASS II		CU YD	391	157	33		201		
U,AM	240-242,W1	2511.501	RANDOM RIPRAP CLASS III		CU YD	139	85			53		
U,W	240-242, 246, B1	2511.501	RANDOM RIPRAP CLASS IV		CU YD	266	8	22	45	191		
	B1	2511.511	GRANULAR FILTER		CU YD	15			15			
U,W,AM	240-242,246,W1	2511.515	GEOTEXTILE FILTER TYPE IV		SQ YD	1711	747	144		820		
L	29-30	2521.501	4" CONCRETE WALK		SQ FT	50452	7905	26554	15993			14416
L	29-30, 50	2521.501	4" CONCRETE WALK SPECIAL 1	18	SQ FT	23633	3352	5864				
L	29-30	2521.501	6" CONCRETE WALK		SQ FT	1214	873	235	106			
L	29-30	2531.501	CONCRETE CURB & GUTTER DESIGN B424		LIN FT	3745	3745					
L	29-30	2531.501	CONCRETE CURB & GUTTER DESIGN B612		LIN FT	283		207	76			
L	29-30, 50	2531.501	CONCRETE CURB & GUTTER DESIGN B612 (MOD)		LIN FT	605		605				
L	29-30	2531.501	CONCRETE CURB & GUTTER DESIGN B618		LIN FT	747		747				
L	29-30, 50	2531.501	CONCRETE CURB & GUTTER DESIGN B618 (MOD)		LIN FT	185		185				
L	29-30	2531.501	CONCRETE CURB & GUTTER DESIGN B624		LIN FT	3028	172	1097	1759			
L	29-30, 50	2531.501	CONCRETE CURB & GUTTER DESIGN B624 (MOD)		LIN FT	8144	1719	5219	1206			

SEE SHEET 6 OF 6 FOR NOTES

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: JCD | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: SEQTAB-3
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE
STATEMENT OF ESTIMATED QUANTITIES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 5 / 681

PLOT DATE: Jan 10, 07 3:22pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH\SEQTAB-3.dwg

Xref'd Drawings
REF-DWG-BDR
22x34bdr

STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	NOTES	UNIT	PROJECT TOTALS	PARTICIPATING				NON-PART.	
							INTERCHANGE S.P. 0215-59 S.P. 114-010-14	CSAH S.P. 02-611-29 S.P. 114-020-28	CSAH S.P. 02-678-17 S.P. 114-020-28	STORM SEWER	100% LOCAL	LANDSCAPE [24] S.P. 114-010-14 S.P. 114-020-28
							ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY
L	29-30	2531.501	CONCRETE CURB & GUTTER DESIGN D424		LIN FT	4643	4643					
L	29-30	2531.507	8" CONCRETE DRIVEWAY PAVEMENT		SQ YD	246		136	110			
		2531.618	TRUNCATED DOMES		SQ FT	184	80	80	24			
X	278	2533.507	PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337	32	LIN FT	8461	7301		1160			
X	278	2533.508	RELOCATE PORTABLE PRECAST CONC BARRIER DES 8337		LIN FT	5800	5800					
		2540.602	PRECAST CONCRETE PLANTERS		EACH	11						11
		2540.603	LANDSCAPE EDGER		LIN FT	336						336
AL	456	2545.511	LIGHTING UNIT TYPE VM-40		EACH	8	8					
AL	456	2545.511	LIGHTING UNIT TYPE VM-45		EACH	10	10					
AL	456	2545.511	LIGHTING UNIT TYPE VMD-45		EACH	2	2					
Y	448	2545.511	LIGHTING UNIT TYPE 3X-30		EACH	28		16	12			
Y	448	2545.511	LIGHTING UNIT TYPE 3X-24		EACH	4		4				
Y	448, 451	2545.511	LIGHTING UNIT TYPE SPECIAL		EACH	2						2
Y, AL	448, 456	2545.515	LIGHT BASE DESIGN E		EACH	36	8	16	12			
AL	456	2545.515	LIGHT BASE DESIGN H		EACH	12	12					
Y	448	2545.515	LIGHT BASE DESIGN SPECIAL		EACH	1		1				
AL	456	2545.521	2" RIGID STEEL CONDUIT		LIN FT	220	220					
Y	448	2545.521	3" RIGID STEEL CONDUIT		LIN FT	1120		825	295			
		2545.521	4" RIGID STEEL CONDUIT	23	LIN FT	710		710				
		2545.521	6" RIGID STEEL CONDUIT	23	LIN FT	1490		1490				
Y	448	2545.523	2" NON-METALLIC CONDUIT		LIN FT	3550		2170	1380			
AL	456	2545.523	3" NON-METALLIC CONDUIT		LIN FT	475	475					
AL	456	2545.523	3" NON-METALLIC COND (DIRECTIONAL BORE)		LIN FT	200	200					
AL	456	2545.531	UNDERGROUND WIRE 1 COND NO 2		LIN FT	660	660					
Y	448	2545.531	UNDERGROUND WIRE 1 COND NO 6		LIN FT	18690		11655	7035			
Y	448	2545.531	UNDERGROUND WIRE 1 COND NO 1/0		LIN FT	660		508	152			
AL	456	2545.533	ARMORED CABLE 4 COND NO 4		LIN FT	10800	10800					
Y, AL	448, 456	2545.541	SERVICE CABINET SECONDARY TYPE L1		EACH	2	1	0.77	0.23			
Y, AL	448, 456	2545.545	EQUIPMENT PAD B		EACH	2	1	0.77	0.23			
Y, AL	448, 456	2545.553	HANDHOLE		EACH	20	8	6	6			
Y	448	2545.602	INSTALL LIGHTING UNIT		EACH	1		1				
	463	2550.511	CABINET FOUNDATION		EACH	1	1					
	463	2550.511	CCTV FOUNDATION		EACH	1	1					
	463	2550.511	RAMP CONTROL SIGNAL FOUNDATION	12	EACH	2	2					
	463	2550.512	HANDHOLE TYPE - PVC METAL COVER		EACH	11	11					
	463	2550.514	FIBEROPTIC SPLICE VAULT		EACH	2	2					
	463	2550.515	OUTDOOR FIBER SPLICE ENCLOSURE		EACH	2	2					
	463	2550.516	BURIED CABLE SIGN		EACH	23	23					
	463	2550.523	1.5" NON-METALLIC CONDUIT		LIN FT	7100	7100					
	463	2550.523	2" NON-METALLIC CONDUIT		LIN FT	910	910					
	463	2550.523	3" NON-METALLIC CONDUIT		LIN FT	2430	2430					
	463	2550.532	POWER CABLE 1 CONDUCTOR NO 6		LIN FT	125	125					
	463	2550.532	SIGNAL CONTROL CABLE 5 COND NO 12		LIN FT	2950	2950					
	463	2550.532	LEAD-IN CABLE 2 CONDUCTOR NO 14		LIN FT	8700	8700					
	463	2550.532	POWER CABLE 3 CONDUCTOR NO 8		LIN FT	150	150					
	463	2550.542	LOOP DETECTOR SPLICE		EACH	4	4					
	463	2550.571	INSTALL CABINET		EACH	1	1					
	463	2550.572	SERVICE EQUIPMENT TYPE B		EACH	1	1					
	463	2550.601	REMOVE CABLES		LUMP SUM	1	1					
	463	2550.601	FIBER OPTIC CABLE TESTING		LUMP SUM	1	1					
	463	2550.602	FIBER OPTIC PIGTAIL TERMINATION		EACH	3	3					
	463	2550.602	FIBER OPTIC CABLE SPLICING		EACH	2	2					
	463	2550.602	LOOP DETECTOR DESIGN PREFORMED		EACH	5	5					
	463	2550.602	INSTALL RAMP CONTROL SIGNAL		EACH	2	2					
	463	2550.602	INSTALL CCTV HARDWARE		EACH	1	1					
	463	2550.603	1.5" BORED CONDUIT		LIN FT	250	250					
	463	2550.603	2" BORED CONDUIT		LIN FT	230	230					
	463	2550.603	FIBEROPTIC TRUNK CABLE 36SM		LIN FT	4025	4025					
	463	2550.603	ARMORED FIBER OPTIC PIGTAIL 6SM		LIN FT	125	125					
	463	2550.603	ARMORED FIBER OPTIC PIGTAIL 12SM		LIN FT	2175	2175					
N	30	2554.501	TRAFFIC BARRIER DESIGN SPECIAL		LIN FT	50	50					
N	30	2554.501	TRAFFIC BARRIER DESIGN B8338		LIN FT	2079	2079					
N	30	2554.501	TRAFFIC BARRIER DESIGN BULLNOSE		LIN FT	200	200					
U,W	240-242, 246	2554.509	GUIDE POST TYPE B		EACH	41	25	16				
N	30	2554.521	ANCHORAGE ASSEMBLY - PLATE BEAM		EACH	2	2					
N	30	2554.523	END TREATMENT-TANGENT TERMINAL	3	EACH	4	4					
X	278	2554.602	IMPACT ATTENUATOR BARRELS		EACH	70	70					
X	278	2554.602	RELOCATE IMPACT ATTENUATOR BARRELS		EACH	42	42					
M	27	2557.501	WIRE FENCE DESIGN 60-9322	33	LIN FT	2900	2900					
	B1	2557.501	WIRE FENCE DESIGN W-1		LIN FT	78			78			
M	27	2557.523	METAL BRACE ASSEMBLY (CHAIN LINK FENCE)		EACH	5	5					
M	27	2557.527	ELECTRICAL GROUND		EACH	4	4					

SEE SHEET 6 OF 6 FOR NOTES

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
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DESIGN FILE: 33889-042
DRAWN BY: JCD | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: SEQTAB-4
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
STATEMENT OF ESTIMATED QUANTITIES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 6 / 681

PLOT DATE: Jan 10, 07 3:22pm DISK-FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH\QTAB-4.dwg

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STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	NOTES	UNIT	PROJECT TOTALS	PARTICIPATING				NON-PART.	
							INTERCHANGE S.P. 0215-59 S.P. 114-010-14	CSAH S.P. 02-611-29 S.P. 114-020-28	CSAH S.P. 02-678-17 S.P. 114-020-28	STORM SEWER	100% LOCAL	LANDSCAPE [24] S.P. 114-010-14 S.P. 114-020-28
							ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY
X	278	2563.601	TRAFFIC CONTROL		LUMP SUM	1	0.58	0.24	0.08	0.06	0.01	0.03
X	278	2563.602	RAISED PAVEMENT MARKER TEMPORARY		EACH	1347	618	418	311			
X	278	2563.602	MEDIAN BARRIER DELINEATOR		EACH	362	307		55			
X	278	2563.602	LINEAR DELINEATION PANEL		EACH	19			19			
X	278	2563.610	POLICE OFFICER		HOUR	192	128	32	32			
X	278	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN		UNIT DAY	20	20					
X	278	2563.618	CONSTRUCTION SIGN-SPECIAL		SQ FT	2303	699	1572	32			
		2564.515	SIGN SUPPORT		EACH	4	4					
AE	397	2564.522	STRUCT STEEL-POSTS FOR TYPE A SIGNS		POUND	2816	2816					
AD	398-399	2564.531	SIGN PANELS TYPE C		SQ FT	945.93	385.80	404.56	155.56			
AB	400	2564.531	SIGN PANELS TYPE D		SQ FT	150.5	150.5					
AF	400	2564.531	SIGN PANELS TYPE OVERLAY		SQ FT	48	48					
		2564.531	SIGN PANELS TYPE OH		SQ FT	308	308					
		2564.536	INSTALL SIGN PANEL TYPE A		EACH	2	2					
AB	400	2564.537	INSTALL SIGN TYPE D		EACH	1		1				
		2564.537	INSTALL SIGN TYPE SPECIAL		EACH	4		2	2			
AC	401	2564.550	DELINEATOR TYPE X4-6		EACH	14	14					
AC	401	2564.552	HAZARD MARKER X4-2		EACH	20	8	10	2			
AC	401	2564.553	CLEARANCE MARKER X4-4		EACH	2		2				
	487	2565.511	TRAFFIC CONTROL SIGNAL SYSTEM A		SIG SYS	1		1				
	487	2565.511	TRAFFIC CONTROL SIGNAL SYSTEM B		SIG SYS	1	1					
	487	2565.511	TRAFFIC CONTROL SIGNAL SYSTEM C		SIG SYS	1		0.50	0.25		0.25	
	487	2565.601	TRAFFIC CONTROL INTERCONNECTION		LUMP SUM	1	0.46	0.46	0.08			
	487	2565.616	TEMPORARY SIGNAL SYSTEM		SYSTEM	1		1				
		2571.501	CONIFEROUS TREE 6' HT B&B		TREE	38	38					49
AM	W1	2571.502	DECIDUOUS TREE 2" CAL B&B		TREE	188	139					
		2571.502	DECIDUOUS TREE 2" CAL CONT		TREE	29	29					
		2571.502	DECIDUOUS TREE 1" CAL CONT		TREE	38	38					
AM	W1	2571.502	DECIDUOUS TREE 8' HT CONT		TREE	36	36					
AM	W1	2571.502	DECIDUOUS TREE 10' HT B&B		TREE	11	11					
AM	W1	2571.505	DECIDUOUS SHRUB 2' HT CONT		SHRUB	375	165					210
		2571.505	DECIDUOUS SHRUB 18" HT CONT		SHRUB	56						56
		2571.506	VINES 2 YR NO 2 CONT		VINE	72						72
		2571.507	PERENNIAL NO 1 CONT		PLANT	4455						4455
AM	W1	2571.507	PERENNIAL PLUGS		PLANT	5732	4977					755
		2572.501	TEMPORARY FENCE		LIN FT	500	250	250				
O,AM	31,W1	2573.502	SILT FENCE, TYPE MACHINE SLICED		LIN FT	19087	13197	4087	1803			
O	31	2573.502	SILT FENCE, TYPE HEAVY DUTY		LIN FT	3830	1670	1710	450			
		2573.505	FLOTATION SILT CURTAIN TYPE MOVING WATER	34	LIN FT	450	50		400			
		2573.506	SEDIMENT TRAP EXCAVATION		CU YD	600	540	60				
		2573.513	TEMPORARY DITCH CHECK TYPE 7		CU YD	110	60	25	25			
AM	W1	2573.520	SEDIMENT REMOVAL BACKHOE		HOUR	48	38	5	5			
O	31	2573.530	STORM DRAIN INLET PROTECTION	7	EACH	110	30	58	22			
O,AM	31,W1	2573.540	FILTER LOG TYPE STRAW BIOROLL		LIN FT	1588	1,381	147	60			
		2573.550	EROSION CONTROL SUPERVISOR	31	LUMP SUM	1	0.65	0.27	0.08			
O	31	2573.602	CULVERT PROTECTION	8	EACH	57	45	12				
AM	W1	2573.602	TEMPORARY ROCK CONSTRUCTION ENTRANCE	35	EACH	3	2	1				
P, AM	32,W1	2575.501	SEEDING		ACRE	42.1	36.3	4.9	1.0			
P	32	2575.502	SEED MIXTURE 100		POUND	319	270	25	25			
P	32	2575.502	SEED MIXTURE 110		POUND	319	270	25	25			
P	32	2575.502	SEED MIXTURE 350		POUND	1888	1732	118	37			
AM	W1	2575.502	SEED MIXTURE 330		POUND	80	80					
P,AM	32,W1	2575.502	SEED MIXTURE 310		POUND	914	651	246	16			
AM	W1	2575.502	SEED MIXTURE 260		POUND	155	155					
O,U	31, 240-242	2575.505	SODDING TYPE EROSION		SQ YD	577	418	159				
P	32	2575.505	SODDING TYPE SALT RESISTANT		SQ YD	12250	3810	5060	3380			
P	32	2575.511	MULCH MATERIAL TYPE 1		TON	12.8	10.8	1.0	1.0			
P, AM	32,W1	2575.511	MULCH MATERIAL TYPE 3		TON	72.2	62.4	8.8	1.0			
		2575.513	MULCH MATERIAL TYPE 6		CU YD	680						680
		2575.513	MULCH MATERIAL TYPE 9		CU YD	140	140					
P,AM	32,W1	2575.519	DISK ANCHORING		ACRE	42.1	36.3	4.9	1.0			
P,AM	32,W1	2575.523	EROSION CONTROL BLANKETS CATEGORY 3		SQ YD	10339	10339					
P,AM	32,W1	2575.532	FERTILIZER TYPE 3	37	POUND	4645	4,390	210	45			
		2575.570	RAPID STABILIZATION METHOD 1		ACRE	5.6	4.2	0.8	0.6			
		2575.571	RAPID STABILIZATION METHOD 3		M GALLONS	20.2	16.7	2.0	1.5			
		2575.572	RAPID STABILIZATION METHOD 4		SQ YD	25400	14400	10000	1000			
		2575.608	SEED MIXTURE SPECIAL		POUND	10						10
X	278	2581.501	REMOVABLE PREFORMED PLASTIC MARKING		LIN FT	40102	14962	17615	7525			

SEE SHEET 6 OF 6 FOR NOTES

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KARL KEEL
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STATEMENT OF ESTIMATED QUANTITIES

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		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 7 / 681

PLOT DATE: Jan 18, 07 3:23pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH\QTAB-5.dwg

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22x34bdr

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							ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY
X	278	2581.603	REMOVABLE PREFORMED PLASTIC MASK (BLACK)		LIN FT	161		161				
X	278	2582.501	PAVEMENT MESSAGE (LEFT ARROW) PAINT		EACH	9		9				
X	278	2582.501	PAVEMENT MESSAGE (RIGHT ARROW) PAINT		EACH	5		5				
Z	391	2582.501	PAVEMENT MESSAGE (LT ARROW) POLY PREFORM		EACH	38	16	20	2			
Z	391	2582.501	PAVEMENT MESSAGE (RT ARROW) POLY PREFORM		EACH	24	13	9	2			
Z	391	2582.501	PAVT MESSAGE (RT-THRU ARROW) POLY PREF		EACH	4		4				
X	278	2582.502	4" SOLID LINE WHITE - PAINT		LIN FT	21082	6125	13847	1110			
X	278	2582.502	24" STOP LINE WHITE - PAINT		LIN FT	96		96				
X	278	2582.502	4" BROKEN LINE WHITE - PAINT		LIN FT	850		850				
X	278	2582.502	8" BROKEN LINE WHITE - PAINT		LIN FT	1253	1253					
X	278	2582.502	8" DOTTED LINE WHITE - PAINT		LIN FT	49		49				
X	278	2582.502	4" SOLID LINE YELLOW - PAINT		LIN FT	10435	8095	2340				
X	278	2582.502	4" DOUBLE SOLID LINE YELLOW - PAINT		LIN FT	6509		6509				
X	278	2582.502	24" SOLID LINE YELLOW - PAINT		LIN FT	530		530				
Z	391	2582.502	24" STOP LINE WHITE - POLYMER PREFORMED		LIN FT	546	120	358	68			
Z	391	2582.502	4" SOLID LINE WHITE - POLYMER PREFORMED		LIN FT	3863	3863					
Z	391	2582.502	4" BROKEN LINE WHITE - POLY PREFORM-GROUND IN		LIN FT	2430	2430					
Z	391	2582.502	4" BROKEN LINE WHITE - POLYMER PREFORMED		LIN FT	322	322					
Z	391	2582.502	4" SOLID LINE WHITE - EPOXY		LIN FT	36329	21925	12032	2372			
Z	391	2582.502	8" SOLID LINE WHITE - EPOXY		LIN FT	1081	1081					
Z	391	2582.502	8" DOTTED LINE WHITE - EPOXY		LIN FT	384	198	158	28			
Z	391	2582.502	4" BROKEN LINE WHITE - EPOXY		LIN FT	1965	215	1110	640			
Z	391	2582.502	4" SOLID LINE YELLOW - EPOXY		LIN FT	24045	18724	4139	1182			
Z	391	2582.502	4" DOUBLE SOLID LINE YELLOW - EPOXY		LIN FT	3349		2426	923			
Z	391	2582.502	24" SOLID LINE YELLOW - EPOXY		LIN FT	530		436	94			
Z	391	2582.503	CROSSWALK MARKING - POLY PREFORM		SQ FT	2664	432	1692	540			
X	278	2582.503	CROSSWALK MARKING - PAINT		SQ FT	630		630				

NOTES:
[1] PIPE CLASS SHOWN IS MINIMUM ALLOWABLE. HIGHER CLASS OF PIPE MAY BE SUBSTITUTED FOR CLASS SHOWN.
[2] FOR USE ADJACENT TO CATCH BASINS PRIOR TO CONSTRUCTION OF FINAL WEAR COURSE LAYER AND FOR STAGING PURPOSES, TYPE SP 12.5 NON WEARING COURSE MIXTURE (SPNWB430C)
[3] SHALL BE ET-2000 OR SKT-350
[4] FOR ALL PAVEMENT/SURFACES REGARDLESS OF DEPTH. SEE INDIVIDUAL TABULATIONS FOR APPROXIMATE PAVEMENT/SURFACE DEPTHS.
[5] RETAINING WALL CONSTRUCTION
[6] 24" DIP BALL JOINT PIPE
[7] CATCH BASIN INLETS
[8] CULVERT INLETS. PAYMENT UNDER THIS ITEM WILL NOT BE MADE FOR PROTECTION CONSISTING OF TURF ESTABLISHMENT OR STABILIZATION ONLY, EITHER RAPID OR PERMANENT. SEEDING, EROSION BLANKET, RIPRAP, AND SODDING, IF ONLY METHODS USED TO PROTECT CULVERT END, SHALL BE PAID FOR UNDER OTHER SPECIFIC ITEMS PROVIDED FOR IN THE CONTRACT.
[9] (6" X 8") TIMBER CURB
[10] STRUCTURE NUMBER 5029
[11] INCLUDES CCTV, RAMP CONTROL SIGNAL & 334Z CAB. FOUNDATION
[12] SCREW-IN FOUNDATION
[13] WOOD TIMBER WEIR
[14] POND C
[15] CONCRETE WALK AND CURB AND GUTTER
[16] STRUCTURE NUMBER 5042
[17] RETAINING WALL 6 AND RETAINING WALL 7.
[18] COLORED CONCRETE WALK. 39% ELIGIBLE, 61% ELIGIBLE UNDER STATE AID RULE 8820.3100, SUBPART 10. LANDSCAPING
[19] TRAFFIC SIGNALS, WATER SYSTEM COMPONENTS, SIGNS, TMS COMPONENTS
[20] SANITARY MANHOLE
[21] 40% STATE FUNDS 10, 30% CITY, AND 30% COUNTY
[22] MODIFIED TO 1:10
[23] FOR UTILITY CONDUIT EXTENSION FROM UNDER ROADWAY AWAY FROM ABUTMENT
[24] ELIGIBLE UNDER STATE AID RULE 8820.3100 SUBP. 10 LANDSCAPING.
[25] POND C AND TEMPORARY WIDENING ON NORTHDALE BLVD.
[26] POND C ROOTING ZONE 29% ELIGIBLE, 71% ELIGIBLE UNDER STATE AID RULE 8820.3100, SUBPART 10. LANDSCAPING RAISED PLANTERS, PLANTER WALLS, AND PLANTING BEDS SOILS 100% ELIGIBLE UNDER STATE AID RULE 8820.3100, SUBPART 10. LANDSCAPING
[27] STRUCTURE NUMBER 5142
[28] DAHLIA PARK OUTLET CONTROL STRUCTURE
[29] TEMPORARY DRAINS - NORTHDALE BOULEVARD SURCHARGE
[30] SERVING AMOCO STATION DURING CONSTRUCTION OF PERMANENT WATERMAIN.
[31] CONTRACTOR IS REQUIRED TO PROVIDE A SPILL PREVENTION PLAN (INCIDENTAL)
[32] TO REMAIN PROPERTY OF CONTRACTOR
[33] FENCE REQUIRES 60" HIGH FENCE FABRIC
[34] DEPTH OF SILT CURTAIN = 2'
[35] PAYMENT WILL BE MADE FOR THREE ROCK ENTRANCES ONLY: (1) DAHLIA PARK WETLAND MITIGATION OFF DIRECT RIVER DRIVE, (2) HANSON BOULEVARD NORTH OF THE INTERCHANGE, AND (3) HANSON BOULEVARD SOUTH OF THE INTERCHANGE. IF CONTRACTORS MEANS AND METHODS REQUIRE ADDITIONAL ROCK ENTRANCES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING MATERIALS, INSTALLING ENTRANCES IN ACCORDANCE WITH THE DETAILS IN THE PLAN, MAINTENANCE, AND REMOVING ENTRANCES SOLELY AT CONTRACTORS EXPENSE.
[36] MSE WALLS AND CAST CONCRETE WALLS
[37] ANALYSIS 18-1-18

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: JCD | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: SEQTAB-6
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
STATEMENT OF ESTIMATED QUANTITIES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 8 / 681

PLOT DATE: Jan 15, 07 3:23pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH\...EQTAB-6.dwg

Xref'd Drawings
REF-DWG-BD
22x34bdr

MNDOT STANDARD PLATES

THESE STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY

PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007D	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3014J	REINFORCED CONCRETE PIPE ARCH
3022C	PRECAST CONCRETE END SECTION
3040F	CORRUGATE METAL PIPE CULVERT
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3123J	METAL APRON FOR C.S. PIPE
3124B	METAL APRON CONNECTION
3128H	SAFETY APRON
3131C	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS
3133C	RIPRAP AT RCP OUTLETS
3134C	RIPRAP AT CMP OUTLETS
3139A	RIPRAP AT PRECAST CONCRETE END SECTIONS
3145F	CONCRETE PIPE TIES
3221C	CORRUGATED STEEL PIPE COUPLING BAND
4006L	MANHOLE OR CATCH BASIN PRECAST
4010H	CONCRETE SHORT CONE AND ADJUSTING RING
4011E	PRECAST CONCRETE BASE
4017C	CATCH BASIN (CONCRETE PIPE AND METAL PIPE)
4020J	MANHOLE OR CATCH BASIN COVER
4024A	48" DIA PRECAST SHALLOW DEPTH CATCH BASIN
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE
4129G	CATCH BASIN FRAME CASTING
4132F	CATCH BASIN FRAME CASTING
4154B	CATCH BASIN GRATE CASTING
4160D	CURB BOX FOR CATCH BASIN
4180J	MANHOLE OR CATCH BASIN STEP
7035M	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7100H	CONCRETE CURB AND GUTTER
7102I	CONCRETE CURB AND GUTTER
7107H	ENTRANCE NOSE
7108F	EXIT NOSE
7111J	INSTALLATION OF CATCH BASIN CASTINGS
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8106B	EQUIPMENT PAD TYPE B
8110D	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
8111D	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED)
8112D	PEDESTAL FOUNDATION
8114A	P.V.C. HANDHOLE/PULLBOX
8115D	PEDESTRIAN PUSH BUTTON INSTALLATION
8118C	SERVICE EQUIPMENT AND POLE - TRAFFIC CONTROL SIGNALS
8119C	GROUND MOUNTED CABINET FOUNDATION
8120L	POLE FOUNDATION (PA85)
8121E	TRANSFORMER BASE AND POLE BASE PLATE
8122D	PEDESTAL AND PEDESTAL BASE
8123E	POLE AND MAST ARM
8124E	MAST ARM SIGNAL HEAD MOUNTS
8126G	PA90 AND PA100 POLE FOUNDATION
8127B	LIGHT BASE - DESIGN E
8128B	LIGHT BASE - DESIGN H
8140B	ROADWAY LIGHTING SERVICE CABINET
8150C	INSTALLATION OF CULVERT MARKERS
8318C	GUARDRAIL ANCHORAGE PLATE FOR BRIDGES AND BCT'S
8337B	TEMPORARY PORTABLE CONCRETE BARRIER
8338C	W-BEAM GUARDRAIL & END ANCHORAGES (INSTALLATION WITH STEEL POSTS)
9322J	CHAIN LINK FENCE

TABULATION INDEX

TAB	SHEET NO	DESCRIPTION
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C	21	REMOVE CHAIN LINK FENCE
D	22-24	DRAINAGE REMOVALS
E	25	REMOVE CURB AND GUTTER
F	21	REMOVE GUARDRAIL
G	25	REMOVE MISCELLANEOUS CONCRETE ITEMS
H	26	BITUMINOUS PAVEMENT REMOVAL
I	26	SAWING CONCRETE AND BITUMINOUS PAVEMENT
J	27	AGGREGATE AND SELECT GRANULAR SUMMARY
K	28	BITUMINOUS SUMMARY
L	29-30	CONCRETE CURB AND GUTTER, WALK, DRIVEWAY, AND NOSES
M	27	FENCE
N	30	TRAFFIC BARRIER
O	31	EROSION CONTROL
P	32	TURF ESTABLISHMENT
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U	240-242	STORM SEWER PIPE
V	243-245	DRAINAGE STRUCTURES
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Y	448	LIGHTING (HANSON)
Z	391	PERMANENT PAVEMENT MARKINGS
AA	401	SALVAGE DELINEATOR
AB	400	SIGN PANELS TYPE D
AC	401	DELINEATORS AND MARKERS
AD	398-399	SIGNS PANELS TYPE C
AE	397	TYPE A (H PILE FOOTINGS)
AF	400	SIGN PANELS TYPE OVERLAY
AG	397	SALVAGE SIGN TYPE A
AH	399	SALVAGE SIGN TYPE C
AI	400	SALVAGE SIGN TYPE D
AJ	400	SALVAGE & INSTALL SIGN TYPE D
AK	401	SALVAGE & INSTALL SIGN TYPE SPECIAL
AL	456	LIGHTING (TH10)
AM	W1	DAHLIA PARK WETLAND MITIGATION PROJECT QUANTITIES
	B1	BRIDGE #95884 WIDENING QUANTITIES

BASIS FOR ESTIMATED QUANTITIES:

AGGREGATE BASE: 140 LB/CF
CLASS 2 SHOULDER MATERIAL: 135 LB/CF
BITUMINOUS MIXTURES: 113 LB/SY/1" DEPTH
BITUMINOUS MATERIAL FOR TACK COAT: 0.03 TO 0.05 GAL/SY
BITUMINOUS MATERIAL FOR SHOULDER TACK 200 LB/ACRE
SEED MIXTURE NO. 350: 84.5 LB/ACRE
SEED MIXTURE NO. 310 (WET): 82 LB/ACRE
SEED MIXTURE NO. 100: 100 LB/ACRE
SEED MIXTURE NO. 110: 100 LB/ACRE
SEED MIXTURE SPECIAL: 55 LB/ACRE
TYPE I AND TYPE 3 MULCH: 2 TON/ACRE
FERTILIZER TYPE 3 - (ANALYSIS 18-1-18): 150 LB/ACRE

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: STD-PLT
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

MNDOT STANDARD PLATES
TABULATION INDEX

CITY PROJECT 01-31	S.P. 0215-59	SHEET NO. 9 / 681
S.P. 02-678-17	S.P. 02-611-29	
	S.P. 114-020-28	
	S.P. 114-010-14	

PLOT DATE: 2007 11:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ETC-STD-PLT.dwg

F Model Drawings
2x34bdr

EARTHWORK TABULATION

A

ROADWAY	STATION	EXCAVATION (EV)									EMBANKMENT (CV)								
		SUIT. GRADING MAT. COMMON EX. VOL (CU YD)	UNSUITABLE MAT. COMMON EX. VOL (CU YD)	SALVAGE TOPSOIL VOL (CU YD)	LIGHT WEIGHT COMMON VOL (CU YD)	MUCK EXCAVATION VOL (CU YD)	SUBGRADE EXCAVATION VOL (CU YD)	SUBCUT FOR COMPACTION VOL (CU YD)	LIGHTWEIGHT SUBGRADE VOL (CU YD)	STRUCTURE EXCAVATION VOL (CU YD)	SUITABLE GRADING VOL (CU YD)	REGULAR EMBANKMENT VOL (CU YD)	LIGHTWEIGHT FILL VOL (CU YD)	SELECT GRANULAR MODIFIED VOL (CU YD)	SELECT GRANULAR 10% MODIFIED VOL (CU YD)	SELECT GRANULAR 5% MODIFIED VOL (CU YD)	SELECT GRANULAR VOL (CU YD)	TOPSOIL VOL (CU YD)	SELECT TOPSOIL BORROW VOL (CU YD)
HANSON BLVD	11+87.47																		
INTERCHANGE	12+00.00	72.2		45.2			7.4	2.6			236.9	572.4					71.7	33.2	
	12+50.00			144.0			12.0	15.7			1209.3	1441.7					353.7	63.9	
	13+00.00			70.9				10.2			765.7						341.7		
	13+40.84			39.0							124.0						216.3		
	BRIDGE																		10.0
	15+33.84																		
	15+50.00			15.3							40.4						122.7		
	16+00.00			33.0							301.9						379.6		
	16+50.00			40.7				12.0			1092.6	84.3					475.0	7.4	
	16+90.97	639.6		52.7				14.0			1366.4	1049.3					432.5	44.8	
SUBTOTAL-Hanson Interchange		711.8		440.9			19.5	54.5			5137.2	3147.6					2393.2	149.2	10.0
RAMP A	138+69.26																		
	139+00.00	4.0	96.8	31.3		107.6	17.1	17.1			206.1	12.5		39.8			46.7	21.1	
	139+50.00	13.0	154.6	53.7		205.6	27.8	21.3			325.9	16.7		66.7			76.9	35.2	
	140+00.00	9.3	127.8	55.6		263.0	25.9	19.4			343.5	12.0		63.9			78.7	36.1	
	140+50.00	4.6	156.5	61.1		255.6	20.4	17.6			357.4	12.0		57.4			79.6	37.0	
	141+00.00	2.8	214.8	64.8		176.9	15.7	11.1			315.7	48.1		32.4			79.6	38.0	
	141+50.00	61.1	163.9	63.9		233.3	12.0	2.8			309.3	68.5		46.3			82.4	37.0	
	142+00.00	60.2	77.8	63.9		360.2	6.5				384.3	62.0		175.9			84.3	34.3	
	142+50.00		202.8	70.4		491.7	4.6				411.1	100.0		387.0			86.1	38.9	
	143+00.00		384.3	76.9		655.6	2.8				386.1	178.7		555.6			88.9	44.4	
	143+50.00		447.2	78.7		1603.7					334.3	368.5		1430.6			90.7	46.3	
	144+00.00		514.8	88.9		3598.1					288.9	677.8		3291.7			91.7	56.5	
	144+50.00	0.9	594.4	95.3		4207.4					279.6	849.1		3938.0			94.4	63.0	
	145+00.00	4.6	725.9	93.5		3245.4					331.5	886.1		3165.7			97.2	59.3	
	145+50.00	3.7	652.8	94.4		2642.6					543.5	711.1		2508.3			100.0	58.3	
	146+00.00		281.5	96.3		1372.2				9.6	691.7	358.3		1114.8		11.9	93.5	59.3	
	146+50.00	0.9	105.6	85.2		209.3				22.8	658.3	243.5				32.7	84.3	63.0	
	147+00.00	1.9	128.7	52.8		176.7				37.3	638.0	313.9		13.9		54.5	83.3	67.6	
	147+50.00	60.2	62.0	40.7		92.6				26.1	433.3	325.0		13.9		72.1	83.3	49.1	
	148+00.00	282.4		53.7						2.0	280.6	427.8				83.5	85.2	33.3	
	148+50.00	577.8		61.1							450.0	713.9				113.4	88.9	40.7	
	149+00.00	819.4		69.4							759.3	1009.3				134.6	92.6	47.2	
	149+50.00	1014.8		77.8							1136.1	1171.3				159.2	96.3	53.7	
	150+00.00	1159.3		88.9							1506.5	1214.8				213.7	100.0	60.2	
	150+50.00	1269.4		109.3							1925.9	1387.0				346.8	103.7	66.7	
	150+73.65	631.5		59.6							1105.9	776.9				172.9	50.4	34.2	
	150+73.66	0.2		0.0							0.4	0.2					0.1	0.0	
	151+00.00	62.4		44.9							838.5	103.4					192.6	43.4	37.1
	151+50.00			44.4							1643.1						460.2	96.3	58.5
	152+04.26			58.3							1563.2						578.5	301.4	30.1
SUBTOTAL-rampA		6044.4	5092.1	1935.7		19899.3	132.8	89.3		97.9	18447.9	12048.6		16901.9		2626.7	2579.9	1303.9	330.0
RAMP A (CONN)	650+73.65																		
	651+00.00	500.2		50.7							855.5	759.3					28.8	41.5	
	651+50.00	940.7		102.8							1734.3	1727.8					55.6	82.4	
	652+00.00	410.2		88.9							2144.8	1154.2					86.1	55.6	
	652+30.46			45.7							1214.0	261.1					60.9	9.0	
SUBTOTAL-rampA CON		1851.1		288.1							5948.6	3902.3					231.4	188.5	
RAMP B (CONN)																			
	754+00.00																		
	754+50.00	3318.5		145.4							2375.0	3791.7					63.0	150.0	
	755+00.00	3711.1		128.7							1983.3	3069.4					53.7	151.9	
	755+50.00	3213.9		107.4							1443.5	1857.4					56.5	148.1	
	755+88.18	2147.3		73.5							876.0	972.9					45.3	111.0	
SUBTOTAL-rampB(Conn)		12390.8		455.0							6677.9	9691.4					218.4	561.0	
RAMP B1	254+27.26																		
	254+50.00			32.4							926.1					257.3	41.7	19.0	
	255+00.00			73.6							2016.3					496.1	88.0	138.9	
	255+50.00			70.4							1693.8					308.1	65.7	190.7	
	255+88.18			48.1							1236.8					193.4	33.2	142.6	
SUBTOTAL-rampB1				224.5							6073.0					1254.9	228.6	491.4	770.0
RAMP B2	255+88.18																		
	256+00.00	617.0		37.5							583.8	386.1				54.8	23.2	47.9	
	256+50.00	2350.0		135.4							2004.6	1423.1				178.0	98.1	194.9	
	257+00.00	1878.7		116.9							1522.2	1148.1				123.0	98.1	119.7	
	257+50.00	1373.1		110.0							1253.7	914.8				54.4	98.1	106.7	
	258+00.00	921.3		98.2							1022.2	689.8				3.3	113.9	87.0	
	258+50.00	497.2		87.3							761.1	497.2					129.6	69.3	
	259+00.00	132.4		71.3							536.1	275.9					129.6	59.3	
	259+50.00	11.1		65.7							462.0	149.1					129.6	51.9	

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: MSL
CHKED. BY: SAW | DWG. NAME: EWTAB-1
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
EARTHWORK
TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 10 / 681

PLOT DATE: Jan .007 11:15am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH EWTAB-1.dwg

EARTHWORK TABULATION

A

ROADWAY	STATION	EXCAVATION (EV)									EMBANKMENT (CV)								
		SUIT. GRADING MAT. COMMON EX. VOL (CU YD)	UNSUITABLE MAT. COMMON EX. VOL (CU YD)	SALVAGE TOPSOIL VOL (CU YD)	LIGHT WEIGHT COMMON VOL (CU YD)	MUCK EXCAVATION VOL (CU YD)	SUBGRADE EXCAVATION VOL (CU YD)	SUBCUT FOR COMPACTION VOL (CU YD)	LIGHTWEIGHT SUBGRADE VOL (CU YD)	STRUCTURE EXCAVATION VOL (CU YD)	SUITABLE GRADING VOL (CU YD)	REGULAR EMBANKMENT VOL (CU YD)	LIGHTWEIGHT FILL VOL (CU YD)	SELECT GRANULAR MODIFIED VOL (CU YD)	SELECT GRANULAR 10% MODIFIED VOL (CU YD)	SELECT GRANULAR 5% MODIFIED VOL (CU YD)	SELECT GRANULAR VOL (CU YD)	TOPSOIL VOL (CU YD)	SELECT TOPSOIL BORROW VOL (CU YD)
	260+00.00	14.8		74.1							463.0	113.9					129.6	44.4	
	260+50.00	12.0		73.1							415.7	102.8					122.2	33.3	
	261+00.00	7.4		68.5							339.8	68.5					113.0	21.3	
	261+50.00	2.8		68.5				19.4			262.0	49.1					116.7	17.6	
	262+00.00			69.4				19.4			233.3	67.6					118.5	15.7	
	262+50.00			67.6							255.6	66.7					114.8	12.0	
	263+00.00			66.7							263.0	66.7					114.8	11.1	
	263+50.00			67.6							247.2	84.3					114.8	13.9	
	264+00.00			67.6							232.4	87.0					114.8	16.7	
	264+50.00			70.4							230.6	69.4					113.0	21.3	
	265+00.00	10.2		72.2							197.2	57.4					103.7	26.9	
	265+50.00	29.6		68.5				0.9			151.9	45.4					88.9	28.7	
	266+00.00	44.4		63.9				2.8			117.6	40.7					75.9	30.6	
	266+50.00	57.4		60.2				2.8			97.2	34.3					66.7	31.5	
	267+00.00	68.5		59.3				4.6			83.0	26.9					61.1	31.5	
	267+50.00	75.0		59.3				16.7			76.5	12.0					63.0	33.3	
	268+00.00	87.0		60.2			0.9	28.7			77.8						66.7	35.2	
	268+50.00	96.3		61.1			1.9	30.6			77.8						65.7	35.2	
	269+00.00	81.5		61.1			0.9	14.8			87.0						65.7	35.2	
	269+50.00	33.3		53.7				1.9			132.4	9.3					66.7	31.7	
	270+00.00			48.1			0.9	6.5			175.0	21.3					66.7	26.1	
	270+23.79			23.3			1.3	4.8			87.2	12.3					31.7	11.3	
SUBTOTAL-rampB2		8401.3		2106.8			6.0	153.9			12449.0	6521.7				413.5	2815.1	1301.1	
RAMP C1	438+45.47										5.6						6.9	5.0	
	438+50.00		38.4	7.2			0.6	1.0			63.9						75.9	52.8	
	439+00.00		406.5	78.7			10.2	10.2			66.7						75.9	50.0	
	439+50.00		395.4	77.8			11.1	9.3			68.5						75.9	50.9	
	440+00.00		390.7	76.9			12.0	9.3			70.4						75.9	50.9	
	440+50.00		372.2	75.9			12.0	9.3			75.0						75.9	48.1	
	441+00.00		325.9	75.0			11.1	8.5			85.2						78.7	45.4	
	441+50.00		229.6	73.1			8.3	6.7			211.1	4.6					85.2	45.4	
	442+00.00		201.9	75.0		53.7	2.8	2.8			438.0	15.7		31.5			97.2	48.1	
	442+50.00		315.7	83.3		160.2	0.9	2.8			757.4	40.7		189.8			113.0	63.9	
	443+00.00	0.9	473.1	103.7		280.6	1.9	3.7			1053.7	70.4		762.0			127.8	80.6	
	443+50.00	0.9	559.3	121.3		859.9	0.9	0.9			1264.8	223.1		2150.9			136.1	88.0	
	444+00.00		666.7	129.6		2439.8					1351.9	386.1		3098.1			137.0	101.9	
	444+50.00		639.8	146.3		3476.9					1388.0	293.5		3358.3			137.0	82.4	
	445+00.00		446.3	126.9		3709.3					1404.6	199.1		2642.6			137.0	53.7	
	445+50.00		275.0	92.6		2950.9					1360.2	250.9		1600.0			137.0	55.6	
	446+00.00		186.1	90.7		1845.4					1249.8	278.7		892.6		21.9	125.9	60.2	
	446+50.00		155.6	91.7		1093.5					1153.4	302.8		214.8		47.0	114.8	65.7	
	447+00.00		161.1	94.4		396.3					1166.9	337.0		89.8		62.6	114.8	70.4	
	447+50.00		229.6	100.0		272.2					1348.3	345.4		15.7		67.4	114.8	74.1	
	448+00.00	137.6	237.0	103.7		233.3					1747.8	436.0		38.9		73.1	114.8	78.7	
	448+50.00	402.8	340.7	109.3		341.7					2200.8	596.7		72.2		76.7	113.9	85.2	
	449+00.00	693.6	541.7	115.7		440.7					2684.7	719.7		198.1		82.1	113.0	93.5	
	449+50.00	1028.0	742.6	118.5		552.0					3160.7	768.1		450.0		82.9	112.0	77.8	
	450+00.00	916.9	925.9	110.2		875.9					4021.1	859.7		413.4		117.4	115.5	117.4	
	450+52.40	611.0	1115.0	121.3		891.8													
SUBTOTAL-rampC1		3791.8	10371.9	2398.9		20883.4	72.1	64.3			28398.3	6128.5		16218.9			633.2	2612.2	1645.6	
RAMP C2	450+52.40																		
	451+00.00	144.6		52.9		136.6					1804.5						203.8	56.4	121.6	
	451+50.00			60.2							1691.4						442.4	132.4	121.3	
	451+87.41			40.9							1230.9						391.4	158.6	38.1	
SUBTOTAL-rampC2		144.6		153.9		136.6					4726.8						1037.6	347.5	281.0	480.0
RAMP C CON	850+52.40																		
	851+00.00	1012.8		39.7		141.9					1855.9	887.7		45.8			58.2	62.6		
	851+50.00	768.0		46.3							1827.4	1054.5					71.3	71.3		
	852+00.00	385.6		48.1							2762.0	808.8					100.0	62.0		
	852+30.59			30.0							1897.6	299.0					84.4	28.3		
SUBTOTAL-rampC CON		2166.3		164.1		141.9					8342.9	3050.0		45.8			313.9	224.2		
RAMP D	554+35.20																		
	554+50.00			16.2							374.5					136.0	36.2	4.4	
	555+00.00			56.5							1693.0					422.3	97.2	69.4	
	555+50.00			51.9							1529.7					295.0	63.9	95.4	
	555+61.82	96.9		19.9							492.5	122.0				45.5	19.0	26.8	
	556+00.00	632.4		94.7							1929.5	748.3				145.0	81.0	78.1	
	556+50.00	815.2		108.3							1997.2	854.9				172.3	102.9	55.6	
	557+00.00	751.5		84.3							1512.0	722.8				187.3	99.3	49.1	
	557+50.00	554.4		69.4							1071.3	522.9				194.7	95.9	43.5	
	558+00.00	320.2		59.3						2.0	728.7	315.6				147.2	92.6	38.0	
	558+50.00	120.4		51.9						3.7	464.8	150.6				102.6	88.9	32.4	
	558+50.01	0.0		0.0						0.0	0.1	0.0				0.0	0.0	0.0	
	559+00.00	265.7		89.8						15.6	361.0	43.2				67.1	86.1	72.2	
	559+50.00	135.2		75.9						21.2	352.0	20.4				44.8	84.3	54.6	
	560+00.00	62.0		72.2						12.3	344.4	7.4				30.0	81.5	42.6	
	560+50.00	16.7		64.8						6.4	294.4	38.9				18.9	72.2	29.6	
	561+00.00			70.4				0.3		1.3	224.9	177.8				12.3	64.8	29.6	

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: MSL
CHKED. BY: SAW | DWG. NAME: EWTAB-2
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
EARTHWORK
TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 11 / 681

PLOT DATE: Jc 2007 11:15am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERT EWTAB-2.dwg

FF 36x24bdr
12x34bdr

EARTHWORK TABULATION

A

ROADWAY	STATION	EXCAVATION (EV)									EMBANKMENT (CV)							
		SUIT. GRADING MAT. COMMON EX. VOL (CU YD)	UNSUITABLE MAT. COMMON EX. VOL (CU YD)	SALVAGE TOPSOIL VOL (CU YD)	LIGHT WEIGHT COMMON VOL (CU YD)	MUCK EXCAVATION VOL (CU YD)	SUBGRADE EXCAVATION VOL (CU YD)	SUBCUT FOR COMPACTION VOL (CU YD)	LIGHTWEIGHT SUBGRADE VOL (CU YD)	STRUCTURE EXCAVATION VOL (CU YD)	SUITABLE GRADING VOL (CU YD)	REGULAR EMBANKMENT VOL (CU YD)	LIGHTWEIGHT FILL VOL (CU YD)	SELECT GRANULAR MODIFIED VOL (CU YD)	SELECT GRANULAR 10% MODIFIED VOL (CU YD)	SELECT GRANULAR 5% MODIFIED VOL (CU YD)	SELECT GRANULAR VOL (CU YD)	TOPSOIL VOL (CU YD)	SELECT TOPSOIL BORROW VOL (CU YD)
	561+50.00			75.9				10.5			175.5	201.9				9.9	64.8	35.2	
	562+00.00			63.9			8.4	27.5			183.4	81.5				4.3	75.0	29.6	
	562+50.00	9.4		54.6			24.6	33.8			199.0	23.6					84.0	21.3	
	563+00.00	34.2		48.1			33.0	34.4			184.7	2.3					81.5	15.7	
	563+50.00	58.8		47.2			32.1	34.6			181.0						78.8	16.7	
	564+00.00	73.7		48.1			28.4	31.5			177.1						76.1	19.0	
	564+50.00	65.5		48.1			22.9	26.6			175.5						74.0	19.4	
	565+00.00	35.6		49.1			15.7	20.7			183.4						73.1	20.8	
	565+50.00	10.7		45.4			9.9	16.2			192.3						73.1	16.7	
	566+00.00	1.1		41.7			6.5	13.1			195.6	2.9					73.1	13.0	
	566+50.00	0.3		41.7			4.5	10.6			192.4	5.4					71.9	13.9	
	567+00.00	0.1		39.8			3.4	8.5			184.4	4.9					68.6	13.0	
	567+50.00			39.8			1.6	6.3			177.5	8.9					65.0	14.8	
	568+00.00			40.7			0.2	3.2			170.6	20.2					61.9	17.6	
	568+50.00	16.2		48.1				1.3			161.9	32.5					60.4	25.9	
	569+00.00	34.7		56.5				2.2			151.5	36.3					60.2	34.3	
	569+50.00	36.4		58.3				2.8			142.5	42.7					60.2	39.8	
	570+00.00	23.4		58.3				1.9			132.3	54.7					60.2	39.8	
	570+50.00	12.3		58.3				1.6			116.9	63.0					60.2	36.1	
	571+00.00	28.1		62.0			0.1	7.2			103.0	33.4					64.1	40.7	
	571+50.00	94.1		63.9			0.7	16.2			92.7						68.0	44.4	
	572+00.00	150.5		63.9			1.9	20.9			84.7						68.1	44.4	
	572+50.00	143.9		64.8			4.3	24.0			78.1						68.1	44.4	
	573+00.00	122.2		63.9			8.4	28.6			71.1						68.0	43.5	
	573+50.00	93.0		51.9			11.9	29.5			66.9						66.6	41.7	
	573+89.32	55.8		38.6			11.0	22.1			51.4						51.0	30.6	
SUBTOTAL-rampD		4870.6		2358.3			229.6	436.2		62.4	17205.5	4339.0				2035.3	2941.6	1453.8	325.0
RAMP D CONN	954+08.00																		
	954+50.00	572.1		91.4							1653.6	1964.7					75.2	60.0	
	955+00.00	1056.2		99.0							1954.6	2362.4					64.7	54.2	
	955+50.00	899.7		87.4							1388.2	1715.6					44.3	37.0	
	955+61.82	221.6		19.4							331.1	322.4					12.1	11.9	
SUBTOTAL-rampD CONN		2749.7		297.1							5327.6	6365.0					196.3	163.2	
EB TH10/47	332+29.07																		
	332+50.00	15.9		6.6			15.5	8.5			8.5						15.5	8.1	
	333+00.00	40.7		17.6			37.0	20.4			20.4						37.0	21.3	
	333+50.00	44.4		19.4			37.0	20.4			20.4						37.0	23.1	
	334+00.00	60.2		37.0			33.3	24.1			24.1						38.0	38.9	
	334+50.00	114.8		60.2			33.3	30.6			32.4						42.6	58.3	
	335+00.00	149.1		65.7			38.0	35.2			45.4						50.0	61.1	
	335+50.00	187.0		66.7			40.7	37.0			56.5						57.4	59.3	
	336+00.00	272.2		70.4			41.7	37.0			64.8						61.1	60.2	
	336+50.00	345.4		74.1			40.7	37.0			73.1						69.4	61.1	
	337+00.00	401.9		77.8			39.8	36.1			83.3						81.5	60.2	
	337+50.00	429.6		79.6			39.8	36.1			90.7						88.9	59.3	
	338+00.00	412.0		79.6			39.8	38.0			90.7						96.3	56.5	
	338+44.10	341.4		69.4			34.3	34.3			82.5						91.5	46.5	
	338+50.00	22.9		4.8			3.6	3.5			7.1						7.6	3.3	
	339+00.00	4.6		3.7			22.2	20.4			26.9						22.2	1.9	
	339+50.00	4.6		4.6			22.2	20.4			30.6						22.2		
	340+00.00	15.7		5.6			24.1	20.4			27.8						24.1	6.5	
	340+50.00	28.7		6.5			25.9	20.4			25.0						25.9	14.8	
	341+00.00	33.3		7.4			25.9	20.4			26.9						25.9	18.5	
	341+50.00	38.9		6.5			25.0	20.4			25.9						25.9	20.4	
	342+00.00	40.7		3.7			24.1	20.4			23.1						25.9	20.4	
	342+50.00	35.2		0.9			24.1	20.4			23.1						25.9	20.4	
	343+00.00	27.8					24.1	20.4			30.6						25.9	20.4	
	343+50.00	20.4					24.1	20.4			45.4						25.9	21.3	
	344+00.00	13.0					24.1	20.4			67.6						25.9	23.1	
	344+50.00	12.0					24.1	20.4			100.0						25.9	25.0	
	345+00.00	11.1		9.3			12.0	10.2			120.4						13.0	27.8	
	345+50.00	6.5		23.1							156.5							31.5	
	346+00.00	5.6		30.6							246.3							35.2	
	346+50.00	5.6	34.3	36.1		64.8					437.0			32.4				38.9	
	347+00.00	5.6	36.1	39.8		86.1					588.9			32.4				41.7	
	347+50.00	6.5	5.6	41.7		48.1					634.3			9.9				44.4	
	348+00.00	7.4	8.3	48.1		94.4					701.9			7.4				50.0	
	348+50.00	7.4	14.8	54.6		137.0					765.7			15.7				55.6	
	349+00.00	8.3	30.6	56.5		154.6					827.8			25.0				58.3	
	349+50.00	9.3	67.6	59.3		190.7					895.4			65.7				61.1	
	350+00.00	9.3	138.9	62.0		250.9					982.4			154.6				64.8	
	350+50.00	9.3	151.9	55.6		200.9					784.3			123.1				58.3	
	351+00.00	12.0	60.2	42.6		55.6					374.1			18.5				45.4	
	351+50.00	16.7		38.9							282.4							40.7	
	352+00.00	18.9		46.4			26.0	21.6			296.9						36.1	20.4	
	352+50.00	153.1		61.0			61.9	44.4			164.9						72.0		
	353+00.00	331.9		35.0			71.9	45.6			82.2						71.9		
	353+50.00	381.9					71.9	45.6			82.3						71.9		
	354+00.00	256.8		30.6			71.9	45.6			82.4						71.9		
	354+50.00	68.8		47.3			46.1	32.0			228.5						46.1	16.7	
	355+00.00	8.3		32.4			10.2	9.3			288.6						10.2	33.3	

PLOT DATE: 2007 11:15am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ER_EWTAB-3.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: MSL
CHKED. BY: SAW
DWG. NAME: EWTAB-3
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
EARTHWORK
TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

ff Jacket: Design
2x34bdr

EARTHWORK TABULATION

A

ROADWAY	STATION	EXCAVATION (EV)									EMBANKMENT (CV)								
		SUIT. GRADING MAT. COMMON EX. VOL (CU YD)	UNSUITABLE MAT. COMMON EX. VOL (CU YD)	SALVAGE TOPSOIL VOL (CU YD)	LIGHT WEIGHT COMMON VOL (CU YD)	MUCK EXCAVATION VOL (CU YD)	SUBGRADE EXCAVATION VOL (CU YD)	SUBCUT FOR COMPACTION VOL (CU YD)	LIGHTWEIGHT SUBGRADE VOL (CU YD)	STRUCTURE EXCAVATION VOL (CU YD)	SUITABLE GRADING VOL (CU YD)	REGULAR EMBANKMENT VOL (CU YD)	LIGHTWEIGHT FILL VOL (CU YD)	SELECT GRANULAR MODIFIED VOL (CU YD)	SELECT GRANULAR 10% MODIFIED VOL (CU YD)	SELECT GRANULAR 5% MODIFIED VOL (CU YD)	SELECT GRANULAR VOL (CU YD)	TOPSOIL VOL (CU YD)	SELECT TOPSOIL BORROW VOL (CU YD)
	355+50.00	7.4		36.1							249.6							38.0	
	356+00.00	11.1		47.2							384.4							49.1	
	356+50.00	23.1		52.8							377.5							54.6	
	357+00.00	40.7		50.9							221.2							52.8	
	357+50.00	63.0		48.1							114.0							50.0	
	358+00.00	70.4		46.3							67.8							47.2	
	358+50.00	63.9		45.4							51.2							45.4	
	359+00.00	94.4		43.5							21.2							44.4	
	359+50.00	165.7		38.9							7.4							43.5	
	360+00.00	217.6		28.7						7.2	7.8							41.7	
	360+50.00	229.6		24.1			10.2	9.3		4.8	18.6						10.2	40.7	
	361+00.00	205.6		25.0			20.4	18.5		1.5	31.3						20.4	39.8	
	361+50.00	150.9		22.2			20.4	18.5			45.0						20.4	38.0	
	362+00.00	100.0		20.4			20.4	18.5			61.7						20.4	34.3	
	362+00.01	0.0		0.0			0.0	0.0			0.0						0.0	0.0	
	362+50.00	63.9		19.4			20.4	18.5			68.5						20.4	30.5	
	363+00.00	62.0		18.5			20.4	18.5			79.6						20.4	29.6	
	363+50.00	50.9		18.5			20.4	18.5			92.6						20.4	29.6	
	364+00.00	40.7		18.5			20.4	18.5			96.3						20.4	28.7	
	364+50.00	30.6		18.5			20.4	18.5			97.2						20.4	26.9	
	365+00.00	21.3		17.6			20.4	18.5			91.7						20.4	25.0	
	365+50.00	13.9		16.7			20.4	18.5			82.4						20.4	23.1	
	366+00.00	11.1		16.7			20.4	18.5			78.7						20.4	22.2	
	366+50.00	12.0		16.7			20.4	18.5			74.1						20.4	21.3	
	367+00.00	13.9		16.7			20.4	18.5			67.6						20.4	20.4	
	367+50.00	15.7		16.7			20.4	18.5			60.2						20.4	19.4	
	368+00.00	15.7		16.7			20.4	18.5			52.8						20.4	17.6	
	368+50.00	15.7		15.7			20.4	18.5			47.2						20.4	16.7	
	369+00.00	12.0		14.8			20.4	18.5			43.5						20.4	15.7	
	369+50.00	6.5		13.9			20.4	18.5			39.8						20.4	13.9	
	370+00.00	3.7		12.0			20.4	18.5			42.6						20.4	12.0	
	370+50.00	1.9		10.2			20.4	18.5			43.5						20.4	10.2	
	371+00.00	1.9		8.3			20.4	18.5			35.2						20.4	8.3	
	371+50.00	1.9		6.5			20.4	18.5			27.8						20.4	6.5	
	372+00.00	1.9		4.6			20.4	18.5			24.1						20.4	4.6	
	372+50.00	1.9		3.7			11.1	18.5			23.1						20.4	3.7	
	372+50.01	0.0		0.0			0.0	0.0			0.0						0.0	0.0	
	373+00.00	6.5		2.8			6.5	20.4			23.1						20.4	2.8	
	373+50.00	7.4		1.9			7.4	20.4			22.2						20.4	1.9	
	373+87.12	6.2		1.4			6.2	15.1			16.5						15.1	1.4	
	374+00.00	7.9		7.6			5.7	6.9			11.9						7.2	4.5	
	374+50.00	50.0		57.4			36.1	33.3			70.4						60.2	34.3	
	375+00.00	42.6		58.3			37.0	33.3			70.4						86.1	34.3	
	375+50.00	36.1		58.3			37.0	33.3			72.2						86.1	33.3	
	376+00.00	35.2		56.5			37.0	34.3			75.9						84.3	33.3	
	376+50.00	27.8		54.6			37.0	35.2			76.9						82.4	32.4	
	377+00.00	38.9		54.6			36.1	35.2			75.0						79.6	33.3	
	377+50.00	74.1		55.6			32.4	34.3			74.1						76.9	36.1	
	378+00.00	100.0		56.5			30.6	32.4			71.3						75.0	38.0	
	378+50.00	116.5		56.5			33.3	31.5			63.9						72.2	38.9	
	379+00.00	127.8		54.6			34.3	30.6			44.4						69.4	38.0	
	379+50.00	110.2		51.9			33.3	29.6			42.6						66.7	35.2	
	380+00.00	88.9		49.1			33.3	30.6			56.5						63.9	34.3	
	380+50.00	76.9		47.2			32.4	29.6			55.6						61.1	43.5	
	381+00.00	75.0		46.3			31.5	28.7			50.0						58.3	43.5	
	381+50.00	79.6		47.2			32.4	29.6			44.4						56.5	36.1	
	382+00.00	69.4		47.2			33.3	29.6			41.7						53.7	37.0	
	382+50.00	56.5		44.4			33.3	29.6			37.0						50.9	36.1	
	383+00.00	54.6		42.6			33.3	28.7			31.5						48.1	35.2	
	383+50.00	59.3		41.7			33.3	26.9			28.7						45.4	35.2	
	384+00.00	50.0		34.3			32.4	20.4			21.3						41.7	33.3	
	384+50.00	40.7		30.6			31.5	13.9			13.9						38.9	33.3	
	385+00.00	43.5		33.3			31.5	13.9			13.9						38.9	35.2	
	385+50.00	44.4		32.4			31.5	14.8			14.8						38.9	35.2	
	386+00.00	45.4		32.4			31.5	15.7			15.7						38.9	37.0	
	386+20.49	20.5		14.8			12.9	6.5			6.5						15.9	15.9	
	386+50.00	25.1		18.6			9.3	4.4			4.4						11.5	18.6	
	387+00.00	30.6		24.1														24.1	
	387+50.00	33.3		25.9														25.9	
	388+00.00	38.0		28.7														28.7	
	388+50.00	37.0		29.6														29.6	
	389+00.00	42.6		30.6														31.5	
	389+50.00	40.7		29.6														30.6	
	390+00.00	31.5		25.0														25.0	
	390+50.00	33.3		21.3														21.3	
	391+00.00	41.7		22.2														22.2	
	391+50.00	50.0		26.9														26.9	
	392+00.00	60.2		32.4														32.4	
	392+22.83	19.0		10.6														10.6	
EB BRDG APP TRTMNT																			
	351+65.89																		
	352+00.00			1.3			1.3							476.3			177.5		
	352+50.00			12.0			214.8							743.5			264.8		
	353+00.00			10.2			568.5							797.2			266.7		
	353+50.00						698.1							819.4			269.4		
	354+00.00			8.3			469.9							787.0			265.7		
	354+47.48			9.7			115.2							697.3			250.6		

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889--042
DRAWN BY: IKR | DESIGN BY: MSL
CHKED. BY: SAW | DWG. NAME: EWTAB-4
DATE: NOVEMBER 10, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
EARTHWORK
TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 13 / 681

PLOT DATE: JI 2007 11:15am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ER1 -EWTAB-4.dwg

EE Survey Drawings
22x34bdr

EARTHWORK TABULATION

A

ROADWAY	STATION	EXCAVATION (EV)									EMBANKMENT (CV)								
		SUIT. GRADING MAT. COMMON EX. VOL (CU YD)	UNSUITABLE MAT. COMMON EX. VOL (CU YD)	SALVAGE TOPSOIL VOL (CU YD)	LIGHT WEIGHT COMMON VOL (CU YD)	MUCK EXCAVATION VOL (CU YD)	SUBGRADE EXCAVATION VOL (CU YD)	SUBCUT FOR COMPACTION VOL (CU YD)	LIGHTWEIGHT SUBGRADE VOL (CU YD)	STRUCTURE EXCAVATION VOL (CU YD)	SUITABLE GRADING VOL (CU YD)	REGULAR EMBANKMENT VOL (CU YD)	LIGHTWEIGHT FILL VOL (CU YD)	SELECT GRANULAR MODIFIED VOL (CU YD)	SELECT GRANULAR 10% MODIFIED VOL (CU YD)	SELECT GRANULAR 5% MODIFIED VOL (CU YD)	SELECT GRANULAR VOL (CU YD)	TOPSOIL VOL (CU YD)	SELECT TOPSOIL BORROW VOL (CU YD)
SUBTOTAL-EB BRDG APP				41.5			2061.8												
SUBTOTAL-EBTH10/47		8372.2	548.1	3946.7		1283.3	2479.7	2099.0		13.6	14349.7			475.9	4320.8		1494.8 3532.3	3755.3	
WB TH10/47	327+36.31																		
	327+50.00	5.6		3.0			10.6	5.6			5.6						10.1	3.5	
	328+00.00	21.3		11.1			40.7	20.4			20.4						37.0	13.0	
	328+50.00	20.4		12.0			43.5	20.4			20.4						37.0	13.9	
	329+00.00	16.7		13.0			41.7	20.4			20.4						37.0	14.8	
	329+50.00	13.9		13.9			36.1	19.4			20.4						33.3	15.7	
	330+00.00	13.9		16.7			35.2	18.5			22.2						31.5	17.6	
	330+50.00	15.7		18.5			38.0	19.4			24.1						34.3	16.5	
	331+00.00	16.7		15.7		15.7	36.1	27.8			45.4						36.1	15.7	
	331+50.00	15.7		15.7		15.7	36.1	29.6			50.0						38.9	14.8	
	332+00.00	14.8		18.5			38.9	25.0			34.3						41.7	16.7	
	332+50.00	14.8		19.4			39.8	25.9			40.7						43.5	16.7	
	333+00.00	13.9		21.3		48.1	38.9	29.6			95.4						45.4	16.7	
	333+50.00	13.0		23.1		121.3	37.0	35.2			177.8						47.2	17.6	
	334+00.00	9.3	26.9	24.1		118.5	36.1	35.2			180.6	14.8		19.4			50.0	18.5	
	334+50.00	6.5	66.7	25.0		100.9	36.1	36.1			156.5	31.5		46.3			52.8	18.5	
	335+00.00	6.5	75.9	26.9		121.3	38.0	37.0			168.5	32.4		61.1			53.7	18.5	
	335+50.00	5.6	74.1	27.8		133.3	38.0	35.2			179.6	32.4		68.5			55.6	18.5	
	336+00.00	5.6	117.6	28.7		194.4	36.1	34.3			260.2	32.4		89.1			59.3	18.5	
	336+50.00	5.6	115.7	28.7		164.8	36.1	34.3			263.9	28.7		72.2			62.0	17.6	
	337+00.00	7.4	75.0	32.4		49.1	40.7	36.1			174.1	22.2		7.4			63.9	21.3	
	337+50.00	8.3	86.1	38.9		37.0	43.5	40.7			174.1	20.4					67.6	26.9	
	338+00.00	7.4	101.9	41.7		71.3	44.4	45.4			208.3	23.1		9.3			74.1	28.7	
	338+50.00	7.4	113.9	43.5		104.6	47.2	47.2			236.1	24.1		27.8			80.6	29.6	
	338+69.26	2.9	46.0	17.1		47.8	18.5	18.5			95.9	9.3		16.1			32.1	11.4	
	339+00.00	4.0	37.0	13.7		39.8	21.6	21.1			83.7	7.4		14.2			32.4	9.1	
	339+50.00	5.6					22.2	20.4			24.1						22.2		
	340+00.00	8.3					21.3	20.4			24.1						22.2	3.7	
	340+50.00	11.1					20.4	20.4			22.2						22.2	8.3	
	341+00.00	11.1					24.1	22.2			23.1						25.0	9.3	
	341+50.00	13.0					27.8	24.1			24.1						27.8	10.2	
	342+00.00	17.6		0.5			27.8	24.1			24.1						27.8	12.0	
	342+50.00	19.4		2.3			26.9	24.1			25.9						27.8	14.8	
	343+00.00	20.4		4.6			25.9	24.1			37.0						27.8	17.6	
	343+50.00	22.2		6.5			25.9	24.1			57.4						27.8	20.4	
	344+00.00	19.4		11.1			25.9	24.1			66.7						27.8	23.1	
	344+50.00	14.8		13.9			25.9	24.1			65.7						27.8	24.1	
	345+00.00	20.4		12.0			25.9	24.1			71.3						27.8	25.0	
	345+50.00	36.0		12.0			25.9	24.1			77.8						27.8	26.9	
	346+00.00	55.6		14.8			25.9	24.1			92.6						27.8	28.7	
	346+50.00	58.3		25.0			13.0	12.0			82.4						13.9	25.9	
	347+00.00	35.2		34.3							80.6							24.1	
	347+50.00	13.0		36.1							157.4							31.5	
	348+00.00	8.3		38.0							225.0							38.0	
	348+50.00	8.3		40.7							245.4							40.7	
	349+00.00	10.2		43.5							262.0							43.5	
	349+50.00	10.2		46.3							276.9							46.3	
	350+00.00	16.7		49.1							273.1							49.1	
	350+50.00	18.5		46.3							239.3							46.3	
	351+00.00	8.3		38.0							166.7							38.0	
	351+50.00	2.8		33.3							169.4							33.3	
	352+00.00	9.7		42.3			23.7	22.1			204.4						35.9	16.7	
	352+50.00	181.1		61.6			38.8	24.6			142.6						71.9		
	353+00.00	369.6		35.9			38.8	24.6			86.9						71.9		
	353+50.00	379.4					38.8	24.6			89.7						71.9		
	354+00.00	246.0		31.1			38.8	24.6			91.9						71.9		
	354+50.00	72.3		58.1			28.7	21.6			170.3						71.9		
	355+00.00	38.0		46.4							149.9						35.9	19.4	
	355+50.00	49.1		38.9							56.5							39.8	
	356+00.00	38.0		48.1							214.8							50.9	
	356+50.00	37.0		67.6							647.2							70.4	
	357+00.00	37.0		75.9							878.7							78.7	
	357+50.00	37.0		72.2							767.6							75.9	
	358+00.00	34.9		67.6							620.4							70.4	
	358+50.00	27.8		63.0							511.1							64.8	
	359+00.00	26.9		60.2							328.7							62.0	
	359+50.00	32.4		57.4							185.2							59.3	
	360+00.00	35.2		53.7							129.6							55.6	
	360+50.00	59.3		44.4							102.8							51.9	
	361+00.00	101.9		32.4							86.1							48.1	
	361+50.00	117.6		26.9							27.8							44.4	
	362+00.00	113.0		15.7			15.7	11.1			25.0						15.7	42.6	
	362+50.00	98.1		5.6			30.6	22.2			18.5						30.6	40.7	
	363+00.00	75.9		5.6			29.6	22.2			12.0						29.6	37.0	
	363+50.00	63.0		5.6			29.6	22.2			16.7						29.6	34.3	
	364+00.00	51.9		5.6			29.6	22.2			25.0						29.6	31.5	
	364+50.00	40.7		6.5			29.6	22.2			27.8						29.6	27.8	
	365+00.00	33.3		8.3			29.6	22.2			35.2						29.6	25.9	
	365+50.00	25.9		11.1			29.6	22.2			45.4						29.6	25.9	
	366+00.00	17.6		13.9			29.6	22.2			59.3						29.6	25.9	
	366+50.00	6.5		16.7			29.6	22.2			80.6						29.6	25.9	
	367+00.00			18.5			29.6	22.2			94.4						29.6	25.9	

PLOT DATE: Jan 2007 11:15am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERT\EWTAB-5.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: MSL
CHKED. BY: SAW | DWG. NAME: EWTAB-5
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE
EARTHWORK
TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

Xref'd Drawings
REF-DWG-BD
22x34bdr

EARTHWORK TABULATION

A

ROADWAY	STATION	EXCAVATION (EV)								EMBANKMENT (CV)								
		SUIT. GRADING MAT. COMMON EX. VOL (CU YD)	UNSUITABLE MAT. COMMON EX. VOL (CU YD)	SALVAGE TOPSOIL VOL (CU YD)	LIGHT WEIGHT COMMON VOL (CU YD)	MUCK EXCAVATION VOL (CU YD)	SUBGRADE EXCAVATION VOL (CU YD)	SUBCUT FOR COMPACTION VOL (CU YD)	LIGHTWEIGHT SUBGRADE VOL (CU YD)	STRUCTURE EXCAVATION VOL (CU YD)	SUITABLE GRADING VOL (CU YD)	REGULAR EMBANKMENT VOL (CU YD)	LIGHTWEIGHT FILL VOL (CU YD)	SELECT GRANULAR MODIFIED VOL (CU YD)	SELECT GRANULAR 10% MODIFIED VOL (CU YD)	SELECT GRANULAR 5% MODIFIED VOL (CU YD)	SELECT GRANULAR VOL (CU YD)	TOPSOIL VOL (CU YD)	SELECT TOPSOIL BORROW VOL (CU YD)
	367+50.00			17.6			24.1	21.3			95.4						25.9	24.1	
	368+00.00			15.7			18.5	20.4			92.6						21.3	20.4	
	368+50.00			13.0			18.5	20.4			79.6						20.4	16.7	
	369+00.00			9.3			18.5	20.4			57.4						20.4	13.9	
	369+50.00			5.6			18.5	20.4			41.7						20.4	11.1	
	370+00.00			2.8			18.5	20.4			34.3						20.4	7.4	
	370+25.17			13.5			14.4	14.0			67.6						32.2	7.9	
	370+50.00			25.3			19.3	17.9			114.5						52.4	12.9	
	371+00.00		9.3	47.2		89.8	38.9	36.1			284.3	18.5					100.0	25.0	
	371+50.00		9.3	44.4		89.8	38.9	35.2			265.7	18.5					92.6	25.0	
	372+00.00			42.6			38.9	35.2			177.8						85.2	25.9	
	372+50.00			38.0			38.9	35.2			152.8						77.6	24.1	
	373+00.00			30.6			39.8	38.0			110.2						69.4	19.4	
	373+50.00			25.9			42.6	39.8			71.3						61.1	17.6	
	374+00.00			24.1			43.5	36.1			47.2						50.0	19.4	
	374+50.00			20.4			41.7	28.7			29.6						41.7	19.4	
	375+00.00	7.4		16.7			38.0	21.3			21.3						38.0	18.5	
	375+50.00	16.7		15.7			34.3	18.5			18.5						34.3	19.4	
	376+00.00	24.1		15.7			35.2	16.7			16.7						35.2	19.4	
	376+46.83	30.4		13.9			34.7	13.9			13.9						34.7	17.3	
WB BRDG APP TRTMNT																			
	351+88.93														991.8		335.9		
	352+50.00			19.2			360.8								875.0		275.0		
	353+00.00			12.0			653.7								895.4		276.9		
	353+50.00						723.1								855.6		273.1		
	354+00.00			7.4			452.8								755.3		254.1		
	354+47.48			9.7			106.4												
SUBTOTAL-WB BRDG APP				48.3			2296.8								4373.0		1415.0		
SUBTOTAL-WBTH10/47		3273.1	955.2	2593.4		1563.6	2410.2	1939.6			13291.0	315.7		441.4			3217.7	2590.0	
												411.0						980.0	
POND A		6643.0	3577.0	980.0								340.0				1070.0		320.0	1260.0
POND C		11690.0	6295.0	1140.0		250.0						70.0						717.0	
POND D		8712.0	2178.0	717.0								8700.0						1260.0	
DAHLIA PARK MITIGATION		28642.0		3430.0															
												9521.0				1070.0		3277.0	1260.0
SUBTOTAL-PONDS		55687.0	12050.0	6267.0		250.0													
S.A.P. 114-020-26	3+16.41																5.0		
HANSON BLVD	3+50.00	5.0					5.0	3.7			5.2						34.4	3.1	
	3+83.16	28.9		2.5			34.4	28.9			31.9						22.6	2.1	
	3+91.29	18.6		1.3			15.7	13.2			20.3						31.8	2.9	
	4+00.00	21.4		1.5			24.4	20.5			28.5						195.4	17.6	
	4+50.00	155.3		10.5			195.4	164.8			182.4						97.0	6.2	
	4+72.15	102.3	4.1	5.8			97.0	81.4			91.6						112.3	7.7	
	5+00.00	133.2					112.3	93.2			102.5						200.0	21.7	
	5+58.70	314.9		17.7			200.0	166.3			179.4						137.7	15.3	
	6+00.00	283.1		13.0			137.7	114.0			123.1						166.7	19.4	
	6+50.00	340.5		16.0			166.7	137.0			148.1						205.6	10.2	
	7+00.00	335.1		10.3			205.6	172.2			179.6						262.0		
	7+50.00	259.9		2.1			262.0	223.1			225.0						264.8		
	8+00.00	118.5					264.8	225.9			228.7						262.0	12.0	
	8+50.00	31.5		8.6			221.3	222.2			257.4	14.8			29.5		261.9	47.9	
	9+00.00	41.1		23.8			147.2	221.3		47.1	264.8	80.6			71.5		260.9	65.2	
	9+50.00	32.8		30.1			70.4	210.2		112.0	251.9	91.7			88.9		280.8	77.6	
	10+00.00	3.7		38.1			26.9	152.8		124.3	239.8	159.3			89.3		294.6	112.8	
	10+50.00	6.7		61.4			7.4	71.3		108.2	266.7	352.8			42.3		286.0	131.5	
	11+00.00	1626.0		81.2				23.1		48.9	404.6	1526.0					275.0	137.0	
	11+50.00	3152.6		117.4			24.1	4.6			498.1	2722.0					210.2	106.1	
	11+87.46	1366.2		119.5			31.2	6.9			491.1	1690.3							
SUBTOTAL-south		8359.2		564.9			2249.2	2356.8		440.6	4222.0	6639.4			321.5		3866.6	799.4	
HANSON BLVD	16+90.98																85.0	19.4	
	17+00.00	283.7		13.7				1.4			231.5	472.3					445.4	129.6	
	17+50.00	2612.0		85.2				2.8			652.8	3119.7					427.8	113.9	
	18+00.00	3093.5		73.1				3.7			490.7	2783.3					425.9	109.3	
	18+50.00	1286.4	288.3	78.1		116.7		14.8			1186.1	1634.3					429.6	132.4	
	19+00.00	12.7	470.2	96.4		216.7		38.9			1733.3	1056.5					429.6	119.4	
	19+50.00		323.5	88.2		151.9		64.8			1450.0	963.9					439.9	87.2	
	20+00.00		260.2	69.6		150.9		91.7		67.5	1150.9	775.0		28.7	80.4		454.2	66.2	
	20+50.00		198.1	56.8		238.9		113.9		141.4	1077.8	542.6		63.9	161.7		430.3	59.8	
	21+00.00		147.2	55.1		214.8		121.3		120.3	975.0	409.3		35.2	150.0		394.9	54.1	
	21+50.00		152.8	52.8		131.5	10.2	135.2		83.0	873.1	321.3			114.3		368.7	48.5	
	22+00.00	1.0	199.1	51.4		111.1	38.0	161.1		79.5	813.0	245.4			89.1		341.0	42.0	
	22+50.00	3.1	172.2	46.9		99.1	90.7	178.7		80.3	702.8	175.0			72.6		327.1	39.5	
	23+00.00	18.5	97.2	42.0		88.9	163.9	184.3		37.5	566.7	109.3			29.0		350.0	27.8	
	23+50.00	25.8	76.4	36.9		186.1	262.0	205.6			853.7	89.8		96.3					
SUBTOTAL - hanson north 02-611-29		7336.8	2385.3	848.1		1706.5	564.8	1318.1		609.5	12757.4	12697.5		224.1	697.1		5349.4	1043.1	
	24+00.00	39.9	41.2	26.9		257.4	324.1	225.0			872.2	65.7		170.4			377.8	22.2	
	24+50.00	141.9	7.5	31.1		213.9	343.5	211.1			523.1	34.3		122.2			375.0	25.9	
	25+00.00	283.5	26.8	42.9		176.9	336.1	175.9			454.6	25.0		69.4			341.7	36.1	
	25+50.00	374.1	50.8	38.2		236.1	311.1	155.6			425.9	20.4		56.5			328.7	37.0	
	26+00.00	402.8	56.3	37.1		324.1	308.3	155.6			435.2	22.2		140.7			325.0	36.1	
	26+50.00	398.1	57.6	43.1		318.5	332.4	178.7			464.8	26.7		207.4			322.2	34.3	

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: MSL
CHKED. BY: SAW | DWG. NAME: EWTAB-6
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
EARTHWORK
TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 15 / 681

PLOT DATE: Jan 3:18pm 2007 DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH\EWTAB-6.dwg

Xref'd Drawings
REF-DWG-BDR
22x34bdr

EARTHWORK TABULATION

A

ROADWAY	STATION	EXCAVATION (EV)									EMBANKMENT (CV)								
		SUIT. GRADING MAT. COMMON EX. VOL (CU YD)	UNSUITABLE MAT. COMMON EX. VOL (CU YD)	SALVAGE TOPSOIL VOL (CU YD)	LIGHT WEIGHT COMMON VOL (CU YD)	MUCK EXCAVATION VOL (CU YD)	SUBGRADE EXCAVATION VOL (CU YD)	SUBCUT FOR COMPACTION VOL (CU YD)	LIGHTWEIGHT SUBGRADE VOL (CU YD)	STRUCTURE EXCAVATION VOL (CU YD)	SUITABLE GRADING VOL (CU YD)	REGULAR EMBANKMENT VOL (CU YD)	LIGHTWEIGHT FILL VOL (CU YD)	SELECT GRANULAR MODIFIED VOL (CU YD)	SELECT GRANULAR 10% MODIFIED VOL (CU YD)	SELECT GRANULAR 5% MODIFIED VOL (CU YD)	SELECT GRANULAR VOL (CU YD)	TOPSOIL VOL (CU YD)	SELECT TOPSOIL BORROW VOL (CU YD)
	26+66.33	125.7	20.5	11.2		96.5	124.6	71.1			163.9	11.5		66.5			121.6	8.8	
	27+00.00	233.8	43.7	20.1		173.3	241.3	140.3			329.8	24.9		117.8			241.3	18.1	
	27+50.00	297.6	74.7	35.0		196.3	302.8	177.8			465.7	38.9		119.4			302.8	34.3	
	28+00.00	281.5	89.3	34.1		170.4	287.0	168.5			466.7	39.8		96.3			287.0	38.9	
	28+50.00	270.4	112.0	33.1		155.6	275.9	162.0			465.7	47.2		89.8			275.9	39.8	
	29+00.00	235.2	130.0	31.8		123.1	264.8	155.6			457.4	57.4		64.8			264.8	39.8	
	29+50.00	197.2	63.7	30.4		55.6	253.7	149.1			410.2	53.7		25.0			253.7	38.9	
	30+00.00	200.0		27.1			242.6	142.6			300.0	44.4					242.6	33.3	
	30+36.64	158.1		18.2			171.0	100.4			150.6	25.8					171.0	23.1	
	30+50.00	56.9		5.8			60.4	35.6			46.5	7.2					60.4	7.4	
	30+63.21	55.3		4.9			64.1	37.9			46.0	6.4					64.1	6.1	
	31+00.00	143.8		16.0			175.8	103.6			122.6	14.3					175.8	21.1	
	31+50.00	175.9		26.4			209.3	123.1			147.2	12.0					209.3	36.1	
	32+00.00	156.5		26.7			199.1	116.7			132.4	5.6					199.1	38.9	
	32+50.00	124.4		17.2			188.9	110.2			120.4	0.9					188.9	33.3	
	32+89.91	86.8		7.1			143.4	84.3			90.2						143.4	17.7	
SUBTOTAL - hanson north 02-678-17		4439.3	774.1	564.5		2497.6	5160.1	2980.5			7091.3	586.4		1346.4			5271.9	627.3	
N. NORTHDALE BLVD	0+50.00																		
	0+81.05	30.4		18.1			65.7	57.8			63.4						68.1	6.6	
	1+00.00	37.4		19.8			74.1	64.6			71.5						76.3	8.5	
	1+50.00	149.6		45.9	4.2		175.1	149.3			167.6						176.9	26.0	
	2+00.00	170.3		46.7	58.5		89.5	143.9	81.0		162.2						170.6	28.0	
	2+49.54	142.0		47.2	134.6		51.4	174.0	161.0		190.1						214.2	16.1	
	2+61.73	37.6		9.8	40.9		24.7	52.4	40.5		55.0						65.5	0.6	
	3+00.00	127.6		30.3	149.9		43.0	140.1	128.1		150.1						170.8	10.5	
	3+50.00	155.6		45.8	207.0		6.6	143.9	164.0		162.2						170.6	26.5	
	4+00.00	114.4		44.0	177.3		9.5	143.9	161.0		162.2	7.7					170.6	25.0	
	4+50.00	85.6		40.0	236.3		15.4	136.8	147.9		158.1	11.9					163.4	26.6	
	5+00.00	68.7		38.5	181.7		27.5	126.0	122.5		158.6	14.4					152.0	30.9	
	5+50.00	68.9		35.3	35.8		34.7	141.9	132.7		167.3	20.1					169.2	25.9	
STA. BACK	5+76.31	39.3		14.1	11.4		40.8	99.2	47.1		103.6	11.4					122.4	8.2	
STA. AHEAD	5+79.79																		
	6+00.00	33.2		12.3	6.7		38.7	81.6	59.3		84.9	9.0					99.3	6.3	
	6+50.00	139.0		85.1	12.4		52.1	162.4	127.7		168.1	33.1					189.9	68.1	
	7+00.00	193.6		115.0	13.0		37.9	145.6	111.8		149.3	43.3					170.5	101.5	
	7+50.00	320.5		75.6	6.3		78.8	153.6	85.9		200.6	21.2					237.2	76.8	
	8+00.00	406.9		48.1			140.5	169.5	47.8		206.3		6.6				249.7	67.5	
	8+50.00	396.8		44.4			167.3	180.1	29.3		169.0		11.1				199.3	67.7	
	9+00.00	423.1		42.7			175.6	177.0	19.3		164.6		14.2				195.6	68.5	
	9+50.00	395.4		41.4			184.3	177.0	10.9		154.1		24.6				195.6	68.1	
	10+00.00	487.1		39.5			189.8	176.6	4.1		132.8		43.7				195.0	68.1	
	10+50.00	575.2		37.6			188.1	171.6			116.8		54.8				189.7	69.5	
	11+00.00	579.9		32.6			178.5	162.4			113.4	0.5	49.0				179.2	73.2	
	11+25.03	194.4		9.1			92.3	81.9			60.4	5.6	21.8				94.0	28.4	
	11+50.00	68.9		7.4	2.0		87.1	79.2	1.8		59.2	7.4	19.9				90.8	25.3	
	12+00.00	129.1		23.0	15.1		99.5	142.0	54.7		107.2	4.2	33.9				154.8	65.6	
	12+50.00	156.9		22.9	21.0		49.5	133.5	98.9		105.5	1.6	28.1				144.9	68.1	
	13+00.00	175.2		29.8	9.9		94.7	128.4	47.8		115.2	5.7	13.2				138.9	70.1	
	13+37.18	134.6		22.0			126.3	109.0			109.0	3.1					126.3	42.0	
	13+50.00	41.4		6.8			43.0	36.6			37.2	0.1					43.0	13.1	
	14+00.00	160.4		31.4			130.7	119.4			121.8	4.8					130.7	66.9	
	14+50.00	169.8		33.1			127.9	119.0			119.0	8.1					127.9	73.7	
	15+00.00	187.9		35.6			124.7	116.2			116.2	9.4					124.7	75.4	
	15+50.00	243.1		38.3			121.6	113.4			113.4	14.7					121.6	82.2	
	16+00.00	289.0		41.6			118.3	110.7			110.7	21.1					118.3	88.7	
	16+50.00	270.8		42.7			90.2	86.3			86.4	22.2					91.3	88.2	
	17+00.00	244.8		43.2			63.6	62.8			63.1	19.0					66.1	87.3	
	17+20.00	97.6		16.7			25.4	25.0			30.4	6.7					26.5	34.5	
	17+50.00	97.9		15.1			30.2	29.1			38.4	4.7					31.0	35.6	
	18+00.00	59.9		8.3			37.1	34.4			39.2						37.1	23.1	
	18+50.00	30.9		4.4			37.0	34.2			39.6						37.0	8.1	
	19+00.00	27.3		7.8			36.5	34.2			38.8	1.4					37.0	16.7	
	19+50.00	29.6		19.2			35.9	34.3			38.1						37.0	29.8	
	19+75.00	14.7		12.3			18.1	17.1			19.1						18.5	14.2	
SUBTOTAL-N.Northdale		8002.3		1480.3	1324.0		3679.5	4977.8	1885.0		4999.6	312.3	320.9				5789.1	2011.7	
SURCHARGE																			
N NDALE BLVD.	07+00.00																		
	07+50.00			18.7							107.7								
	08+00.00			37.4							218.9								
	08+50.00			38.3							235.9								
	09+00.00			39.7							260.7								
	09+50.00			41.7							285.4								
	10+00.00			43.7							329.8								
	10+50.00			43.1							369.0								
	11+00.00			45.2							402.1								
	11+50.00			43.0							353.1								
	12+00.00			35.9							250.1								
	12+50.00			33.6							207.6								
	13+00.00			16.4							97.1								
SUBTOTAL-SURCHARGE N.Ndale Blvd				436.7							3117.5								

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: MSL
CHKED. BY: SAW | DWG. NAME: EWTAB-7
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
EARTHWORK
TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 16 / 681

PLOT DATE: Jul 2007 11:15am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-EWTAB-7.dwg

Xref'd Drawings
REF-DWG-BDR
22x34bdr

EARTHWORK TABULATION

A

ROADWAY	STATION	EXCAVATION (EV) SUIT. GRADING MAT. COMMON EX. VOL (CU YD)	UNSUITABLE MAT. COMMON EX. VOL (CU YD)	SALVAGE TOPSOIL VOL (CU YD)	LIGHT WEIGHT COMMON VOL (CU YD)	MUCK EXCAVATION VOL (CU YD)	SUBGRADE EXCAVATION VOL (CU YD)	SUBCUT FOR COMPACTION VOL (CU YD)	LIGHTWEIGHT SUBGRADE VOL (CU YD)	STRUCTURE EXCAVATION VOL (CU YD)	EMBANKMENT (CV) SUITABLE GRADING VOL (CU YD)	REGULAR EMBANKMENT VOL (CU YD)	LIGHTWEIGHT FILL VOL (CU YD)	SELECT GRANULAR MODIFIED VOL (CU YD)	SELECT GRANULAR 10% MODIFIED VOL (CU YD)	SELECT GRANULAR 5% MODIFIED VOL (CU YD)	SELECT GRANULAR VOL (CU YD)	TOPSOIL VOL (CU YD)	SELECT TOPSOIL BORROW VOL (CU YD)
TEMPORARY BYPASS 1	00+65.00																		
FOR N. NDALE BLVD.	00+75.00	1.9		1.3			0.8	0.5			0.5	0.3					0.7	0.8	
	01+00.00	8.5		7.5			4.9	3.7			3.7	1.4					4.4	4.1	
	01+50.00	23.0		20.0			15.4	13.3			13.3	2.8					14.7	9.3	
	02+00.00	31.9		22.1			21.1	18.5			18.5	3.1					19.8	9.0	
	02+50.00	34.2		21.5			26.0	23.2			23.2	3.5					24.6	7.1	
	02+71.68	15.7		4.7			9.8	8.6			8.6	0.8					9.5	1.3	
	03+00.00	34.6		6.4			11.0	9.3			9.3	0.8					10.6	2.5	
	03+50.00	31.1		20.9			21.7	18.8			18.8	3.0					20.2	8.1	
	04+00.00	25.6		18.0			20.4	17.5			17.5	2.9					18.9	6.9	
	04+50.00	16.4		23.8			19.9	16.9			16.9	30.4					18.4	11.5	
	05+00.00	8.2		30.1			16.6	13.6			13.6	56.8					15.2	17.0	
	05+20.00	4.1		11.3			10.7	9.4			9.4	19.1					10.1	7.0	
	05+50.00	8.3		8.2			29.9	27.6			27.6	12.1					29.4	5.3	
	05+79.73	18.9					39.4	36.8			36.8						39.3		
	06+00.00	5.7		1.6			26.9	25.6			25.6	0.8					26.9	0.5	
	06+50.00	10.6		10.6			49.8	47.5			47.5	3.5					49.9	2.6	
	07+00.00	14.4		16.8			40.7	37.5			37.5	3.5					40.0	4.9	
	07+50.00	19.3		10.1			41.1	37.2			37.2	2.0					37.1	3.6	
	08+00.00	14.1		7.2			36.1	35.5			35.5	2.3					35.2	1.8	
	08+50.00	9.0		13.4			35.0	34.6			25.4	3.9					36.6	3.1	
	09+00.00	10.5		12.3			39.0	35.6			26.4	3.2					37.6	2.6	
	09+50.00	11.3		13.2			39.4	36.2			36.2	3.1					38.2	2.6	
	10+00.00	14.0		14.1			39.9	36.9			36.9	3.1					38.7	2.6	
	10+50.00	13.5		16.3			40.0	41.9			41.9	1.7					42.3	3.4	
	11+00.00	6.5	17.9	29.0			30.0	37.5			55.8						45.9	10.7	
	11+25.03	3.8	8.9	9.9			14.3	16.1			25.3						21.3	4.3	
	11+50.00	3.7	7.2	9.2			15.1	17.1			24.1						21.4	4.0	
	12+00.00	2.8	39.8	38.1			22.3	30.2			58.1						47.2	16.8	
	12+50.00	6.0	49.4	38.7			20.9	28.5			51.9						47.0	17.4	
	13+00.00	8.5	44.4	39.6			22.8	30.8			52.6						46.8	17.4	
	13+37.18	11.7	15.3	15.2			23.1	24.7			33.9						31.6	6.6	
	13+50.00	4.8					10.6	9.8			9.8						10.4	0.3	
	14+00.00	11.3	10.0	19.2			34.3	39.8			46.0						44.7	9.5	
	14+50.00	7.6	18.8	37.3			23.7	33.1			55.6						46.6	15.7	
	15+00.00	7.3	19.2	36.9			21.4	26.9			63.1						46.6	15.4	
	15+50.00	5.7	22.3	38.2			18.4	24.4			73.3						46.9	16.6	
	16+00.00	4.3	25.6	39.2			17.1	23.1			79.3						47.0	17.6	
	16+50.00	3.9	29.3	39.6			18.1	25.1			78.2						47.2	18.1	
	17+00.00	4.4	33.1	40.6			19.4	26.1			83.8						47.2	19.1	
	17+20.00	2.3	14.2	16.5			7.8	9.7			35.7						18.6	8.0	
	17+50.00	3.6	10.8	17.9			11.5	15.6			41.0						26.8	7.9	
	18+00.00	18.9		9.3			23.0	25.9			35.4						35.0	3.1	
	18+20.67	12.4					10.3	9.0			9.0						10.3		
	18+50.00	15.6					12.3	10.4			10.4						12.3		
	19+00.00	14.9		1.0			18.3	15.6			15.6	1.5					17.7	1.3	
	19+50.00	4.0		2.0			17.9	15.5			15.5	2.9					16.8	2.6	
	19+75.46	2.5		1.3			9.1	7.8			7.8	1.5					8.5	1.3	
SUBTOTAL-BYPASS 1 (N.Ndale Blvd)		551.3	366.1	790.3			1057.2	1088.9			1528.9	170.0					1362.5	331.2	
TEMPORARY BYPASS 2	11+00.00																		
FOR N. NDALE BLVD.	11+21.00	58.4					2.2	0.9			0.9						2.2	4.2	
	11+50.00	144.0					7.4	3.9			3.9						7.4	11.3	
	12+00.00	188.5		3.2			19.0	13.3			13.3						19.0	19.4	
	12+50.00	136.8		5.9			24.7	19.3			20.9						24.8	19.7	
	13+00.00	57.4		22.3			14.6	16.0			44.3						27.5	19.8	
	13+50.00			39.1			5.2	13.4			62.9						29.0	20.0	
	14+00.00			39.7			5.5	13.9			59.9						29.6	20.2	
	14+50.00			41.3			4.0	12.5			56.7						30.0	21.0	
	15+00.00			42.2			4.4	13.7			53.1						30.5	21.5	
	15+50.00	0.5		45.0			7.5	16.1			48.1						30.9	23.1	
	16+00.00	1.1		48.5			11.2	21.9			50.5						31.4	25.3	
	16+50.00	1.3		48.2			12.3	23.2			58.3						31.7	25.1	
	17+00.00	1.5		46.7			12.4	22.6			68.8						31.5	24.5	
	17+20.00	0.6		18.3			3.7	6.1			31.7						12.5	9.5	
	17+50.00	1.0		19.9			6.3	9.2			31.4						17.3	9.4	
	18+00.00	2.0		18.3			14.3	16.6			17.8						22.1	8.1	
	18+50.00	1.3		15.5			12.2	8.6			9.0						13.8	9.1	
	19+00.00	0.3		7.5			5.4	2.6			2.7						4.9	5.0	
SUBTOTAL-BYPASS 2 (N.Ndale Blvd)		594.6		461.8			172.3	236.2			634.0						396.0	296.4	
CSAH TOTALS		29284	3526	5147	1324	4204	12883	12958	1885	1050	34351	20406	321	1570	1019		22035	5109	
INTERCHANGE TOTALS		54768	16967	17453		43908	9708	4837		174	146375	55510		34084	8694	8001	24538	14108	1915
POND TOTALS		55687	12050	6267		250						9521				1070		3277	1260
NOTES:																			

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: MSL
CHKED. BY: SAW | DWG. NAME: EWTAB-8
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE
EARTHWORK
TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 17 / 681

PLOT DATE: Jan 1, 07 3:18pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH\EWTAB-8.dwg

FF Xref: Dwgs
2x34bdr

EARTHWORK SUMMARY

A

LOCATION	STATION TO STATION	EXCAVATION (EV)									EMBANKMENT (CV)								
		2105 SUITABLE COMMON (C Y)	2105 UNSUITABLE COMMON (C Y)	2105 SALVAGE TOPSOIL (C Y)	2105 LIGHTWEIGHT COMMON (C Y)	2105 MUCK EXCAVATION (C Y)	2105 SUBGRADE EXCAVATION (C Y)	2105 SUBCUT FOR COMPACTION (C Y)	2105 LIGHTWEIGHT SUBGRADE (C Y)	2411 STRUCTURE EXCAVATION (C Y)	SUITABLE GRADING (C Y)	REGULAR EMBANKMENT (CY)	LIGHTWEIGHT FILL (CY)	2105 SEL GRAN MODIFIED (CY)	2105 SEL GRAN 10% MOD (CY)	2105 SEL GRAN 5% MOD (CY)	2105 SEL GRAN [B] (CY)	2105 TOPSOIL (CY)	2105 SEL TOP BORROW (CY)
INTERCHANGE																			
HANSON INTERCHANGE	11+87.46 - 16+90.97	712 [1]		441			19	54			5,137	3,148 [12]						149	10
RAMP A	138+69.26 - 152+04.26	6,044 [2]	5,092	1,936		19,899	133	89		98	18,448	12,049 [13]		16,902		2,627		1,304	330
RAMP A CONNECTION	650+73.65 - 652+30.46	1,851 [3]		288							5,949	3,902 [14]						188	
RAMP B CONNECTION	754+00.00 - 755+88.00	12,391 [4]		455							6,678	9,691 [15]						561	
RAMP B1	254+27.26 - 255+88.18			224							6,073					1,255		491	770
RAMP B2	255+88.18 - 270+23.29	8,401 [5]		2,107			6	154			12,449	6,522 [16]				414		1,301	
RAMP C1	438+45.47 - 450+52.40	3,792 [6]	10,372	2,399		20,883	72	64			28,398	6,128 [17]		16,219		633		1,646	
RAMP C2	450+52.40 - 451+87.41	145		154		137					4,727					1,038		281	480
RAMP C CONNECTION	850+52.40 - 852+30.59	2,166 [7]		164		142					8,343	3,050 [18]		46				224	
RAMP D	554+35.20 - 573+89.24	4,871 [8]		2,358			230	436		62	17,205	4,339 [19]				2,035		1,454	325
RAMP D CONNECTION	954+08.00 - 955+61.82	2,750 [9]		297							5,328	6,365 [20]						163	
EB TH 10/47	332+29.07 - 392+22.83	8,372	548	3,947		1,283	2,480	2,099		14	14,350			476				3,755	
EB TH 10/47 BR. APP. TRTMT.	351+65.89 - 354+47.48			41			2,062								4,321				
WB TH 10/47	327+36.31 - 376+46.83	3,273	955	2,593		1,564	2,410	1,940			13,291	316		441				2,590	
WB TH 10/47 BR APP. TRTMT.	351+88.93 - 354+47.48			48			2,297								4,373				
POND A		6,643	3,577	980								411						980	
POND C		11,690	6,295	1,140		250						340				1,070		320	1,260
POND D		8,712	2,178	717								70						717	
DAHLIA PARK WETLAND MIT.		28,642 [24]		3,430								8,700 [23]						1,260	
INTERCHANGE SUBTOTAL		110,455	29,017	23,720		44,158	9,708	4,837		174	146,375	65,031		34,084	8,694	9,071	23,929	17,385	4,789
HANSON BLVD	3+18.89 - 11+87.46	8,359 [10]		565			2,249	2,357		441	4,222	6,639 [21]			321			799	
HANSON BLVD	16+90.97 - 24+00.00	7,337 [11]	2,385	848		1,706	565	1,318		610	12,757	12,698 [22]		224	697			1,043	
NORTHDALE BLVD	0+50.00 - 19+75.00	8,002		1,480	1,324		3,679	4,978	1,885		5,000	312	321					2,012	
NORTHDALE BLVD. SURCHARGE	7+00.00 - 13+00.00			437							3,117								
NORTHDALE BLVD BYPASS NO. 1	0+65.00 - 19+75.46	551	366	790			1,057	1,089			1,529	170						331	
NORTHDALE BLVD BYPASS NO. 2	11+00.00 - 19+00.00	595		462			172	236			634							296	
CSAH SUBTOTAL (02-611-29)		24,844	2,751	4,582	1,324	4,706 [26]	7,723	9,978	1,885	1,050	27,259	19,819	321	3,224 [26]	1,019		17,332	4,482	
HANSON BLVD	24+00.00 - 32+89.91	4,439	774	565		2,498	5,160	2,981			7,091	586 [22]		1,346				627	
CSAH SUBTOTAL (02-678-17)		4,439	774	565		2,498	5,160	2,981			7,091	586 [22]		1,346			6,113	627	
CSAH SUBTOTAL		29,284	3,526	5,147	1,324	7,204 [26]	12,883	12,958	1,885	1,050	34,351	20,406	321	4,570 [26]	1,019		23,445	5,109	
PROJECT TOTALS:		139,738	32,543	28,867	1,324	51,362	22,591	17,795	1,885	1,224	180,726	85,436	321	38,654	9,712	9,071	47,374	22,494	4,789

[A] SUBCUT FOR COMPACTION ON NORTHDALE BOULEVARD INCLUDES LIGHTWEIGHT AGGREGATE MATERIAL
[B] QUANTITY FROM AGGREGATE AND SELECT GRANULAR SUMMARY TABULATION (TAB J)
[23] MUCK - REFER TO PLAN
[24] INCLUDES SUBCUT FOR DAHLIA PARK WETLAND MITIGATION
[25] MUCK EXC. AND SELECT MOD. BACKFILL FOR HANSON BOULEVARD INLCUDES 3,000 CY EACH FOR STORM PIPE FOUNDATION CORRECTION.
[26] INCLUDES ESTIMATED 3,000 CY FOR SOIL CORRECTION FOR STORM PIPE CONSTRUCTION STRUCTURE 5200 TO 5199 (NOT SHOWN IN STATIONED TABULATION).

NOTES:

[1] INCLUDES 599 CY OVERDEPTH EXCAVATION (SUITABLE GRADING)
[2] INCLUDES 3868 CY OVERDEPTH EXCAVATION
[3] INCLUDES 1879 CY OVERDEPTH EXCAVATION
[4] INCLUDES 7337 CY OVERDEPTH EXCAVATION
[5] INCLUDES 3143 CY OVERDEPTH EXCAVATION
[6] INCLUDES 2696 CY OVERDEPTH EXCAVATION
[7] INCLUDES 1440 CY OVERDEPTH EXCAVATION
[8] INCLUDES 2066 CY OVERDEPTH EXCAVATION
[9] INCLUDES 2622 CY OVERDEPTH EXCAVATION
[10] INCLUDES 4483 CY OVERDEPTH EXCAVATION
[11] INCLUDES 6380 CY OVERDEPTH EXCAVATION
TOTAL = 36,533 CY (EV)

[12] INCLUDES 599 CY FOR BACKFILLING OVERDEPTH EXCAVATION (REGULAR EMBANKMENT)
[13] INCLUDES 3868 CY FOR BACKFILLING OVERDEPTH EXCAVATION
[14] INCLUDES 1879 CY FOR BACKFILLING OVERDEPTH EXCAVATION
[15] INCLUDES 7337 CY FOR BACKFILLING OVERDEPTH EXCAVATION
[16] INCLUDES 3143 CY FOR BACKFILLING OVERDEPTH EXCAVATION
[17] INCLUDES 2696 CY FOR BACKFILLING OVERDEPTH EXCAVATION
[18] INCLUDES 1440 CY FOR BACKFILLING OVERDEPTH EXCAVATION
[19] INCLUDES 2066 CY FOR BACKFILLING OVERDEPTH EXCAVATION
[20] INCLUDES 2622 CY FOR BACKFILLING OVERDEPTH EXCAVATION
[21] INCLUDES 4483 CY FOR BACKFILLING OVERDEPTH EXCAVATION
[22] INCLUDES 6380 CY FOR BACKFILLING OVERDEPTH EXCAVATION
TOTAL = 36,533 CY (CV)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: MSL
CHKED. BY: SAW | DWG. NAME: EWSUM
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
EARTHWORK
EARTHWORK SUMMARY

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 18
681

PLOT DATE: Jan .007 3:18pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH-EWSUM.dwg

Xref'd Drawings
TEF-DWG-BDR
12x34bdr

EARTHWORK BALANCE

EXCAVATION (CY)

COMMON	202,472	SUITABLE GRADING	SUITABLE	139,738	141,062 (EV) / 1.2 = 117,552(CV)
			LIGHTWEIGHT [9]	1,324	
		UNSUITABLE	UNSUITABLE [10]		32,543 (EV) / 1.2 = 27,119 (CV)
			SALVAGE TOPSOIL		28,867 (EV) / 1.2 = 24,056 (CV)
SUBGRADE	42,272	SUITABLE GRADING		22,591	
		SUBCUT FOR COMPACTION		17,795	42,272 (EV) / 1.2 = 35,226 (CV)
		LIGHTWEIGHT [9]		1,885	
MUCK	51,362	UNSUITABLE			51,362 (EV) / 1.2 = 42,802 (CV)
STRUCTURE	1,224 [7]	SUITABLE GRADING			1,224 (EV) / 1.2 = 1,020 (CV)

[1] 297,330 (EV)

SUITABLE GRADING	153,798	(CV)
UNSUITABLE [11]	85,958	(CV)
TOPSOIL [12]	8,019	(CV)

EMBANKMENT (CY)

[2] 399,079 (CV)

180,726	(CV)	SUITABLE GRADING	
85,436	(CV)	REGULAR EMBANKMENT	
321	(CV)	LIGHTWEIGHT (CINDERS)	[5]
4,789	(CV)	SELECT TOPSOIL BORROW	[16]
47,374	(CV)	SELECT GRANULAR	[4]
38,654	(CV)	SELECT GRANULAR (MODIFIED)	[13]
9,712	(CV)	SELECT GRANULAR (10% MOD.)	
9,071	(CV)	SELECT GRANULAR (5% MOD.)	[15]
22,494	(CV)	TOPSOIL	
500	(CV)	WOOD CHIPS	[14]

BORROW (CY)

BORROW	SELECT TOPSOIL BORROW	6,705	LV / 1.4 =	4,789	(CV)	[16]
	GRANULAR	38,148	LV / 1.4 =	27,249	(CV)	[6]
	SELECT GRANULAR	66,324	LV / 1.4 =	47,374	(CV)	[4]
	SELECT GRANULAR (MODIFIED)	54,116	LV / 1.4 =	38,654	(CV)	[13]
	SELECT GRANULAR (10% MOD)	13,597	LV / 1.4 =	9,712	(CV)	[8]
	SELECT GRANULAR (5% MOD)	12,700	LV / 1.4 =	9,071	(CV)	[15]
	TOPSOIL BORROW	23,161	LV / 1.6 =	14,476	(CV)	
	WOOD CHIPS	700	LV / 1.4 =	500	(CV)	[14]

[3] 151,825 (CV)

EXCESS (CY)

UNSUITABLE 85,958 (CV) – REGULAR EMBANKMENT 85,436 (CV) = 522 (CV)

NOTES:

[1] TOTAL EXCAVATION (EV) REQUIRED FOR THIS PROJECT
[2] TOTAL EMBANKMENT (CV) REQUIRED FOR THIS PROJECT
[3] TOTAL BORROW (CV) REQUIRED FOR THIS PROJECT
[4] QUANTITY FROM AGGREGATE AND SELECT GRANULAR SUMMARY TABULATION (TAB J)
[5] FOR BACKFILLING 12" SUBCUT ON NORTHDALE BOULEVARD STA. 7+00 TO 13+00, LT. AFTER SURCHARGE IS REMOVED AND FILLING IN DITCH IN WIDENING AREAS
[6] SUITABLE GRADING 180,726 (CV) CY + LIGHTWEIGHT 321 (CV) CY = 181,047 (CV) REQUIRED – SUITABLE GRADING AVAILABLE 153,798 (CV) = 27,249 (CV) CY
[7] FOR RETAINING WALLS
[8] INCLUDES 8,694 (CV) CY FOR BRIDGE APPROACH TREATMENT, AND 1,019 (CV) CY FOR RETAINING WALLS 6, AND 7
[9] LIGHTWEIGHT AGGREGATE (NORTHDALE BOULEVARD) IS CINDER-LIKE MATERIAL
[10] MATERIAL POSSIBLY CONTAINING ORGANICS FROM WASTE AND DISPOSAL AREAS FROM PREVIOUS ROADWAY PROJECTS
[11] INCLUDES 2/3 OF ON-SITE SLOPE DRESSING ASSUMED NOT REUSABLE AS TOPSOIL
[12] ESTIMATED 1/3 OF ON-SITE SLOPE DRESSING IS REUSABLE AS TOPSOIL
[13] FOR USE IN BACKFILLING SWAMP EXCAVATION AREAS WHERE DEWATERING IS DIFFICULT
[14] POND C LIGHTWEIGHT EMBANKMENT
[15] MSE WALL BACKFILL AND POND C LINER COVER
[16] POND C – ROOTING ZONE, MSE WALL PLANTERS AND RAMP ISLANDS

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: MSL
CHKED. BY: SAW | DWG. NAME: EWBALANCE
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE
EARTHWORK
EARTHWORK BALANCE

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 19 / 681

PLOT DATE: Jan 07 3:11pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH\...WBALANCE.dwg

Xref'd Drawings
-DWG-BDR
34bdr

SOILS AND CONSTRUCTION NOTES:

1. TOP OF THE THE GRADING SUBGRADE (GRADING GRADE) IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE LAYER.

2. BOTTOM OF SUBBASE GRADE SHALL BE DEFINED AS THE BOTTOM OF THE SELECT GRANULAR LAYER (BOTTOM OF FROST FREE ZONE).

3. SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL GRANULAR AND FINER GRAINED SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIAL, AND OTHER UNSTABLE MATERIAL.

4. GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B1.

5. SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B2.

6. SELECT GRANULAR BORROW MODIFIED (MOD) IS DEFINED AS MATERIAL MEETING THE REQUIREMENTS OF MNDOT SPEC. 3149.2B2 WITH THIS ADDED REQUIREMENT, "THE MATERIAL SHALL BE SO GRADED FROM COARSE TO FINE THAT, OF THE MATERIAL PASSING THE #10 SIEVE, NO MORE THAN 65% SHALL PASS THE #40 SIEVE, AND NO MORE THAN 10% SHALL PASS THE #200 SIEVE."

7. SELECT GRANULAR MODIFIED 10% IS DEFINED AS SAND HAVING LESS THAN 10% BY WEIGHT PASSING THE #200 SIEVE, AND LESS THAN 40% BY WEIGHT PASSING THE #40 SIEVE.

8. SELECT GRANULAR MODIFIED 5% IS DEFINED AS SAND HAVING LESS THAN 5% BY WEIGHT PASSING THE #200 SIEVE, AND LESS THAN 40% BY WEIGHT PASSING THE #40 SIEVE.

9. SELECT TOPSOIL BORROW PER Mn/DOT SPEC 3877 SHALL BE USED FOR POND C ROOTING ZONE AND IN LANDSCAPE PLANTING AREAS IDENTIFIED IN LANDSCAPE PLAN.

10. TOPSOIL BORROW – MN/DOT SPECIFICATION 3877. IS DEFINED AS EXISTING SOILS WHICH MEET THE SPECIFICATION WOULD BE SUITABLE FOR REUSE.

11. UNSUITABLE SOILS ARE DEFINED AS SOILS WHICH DO NOT MEET OR ARE NOT MANUFACTURED TO MEET ANY OF THE ABOVE DEFINED CATEGORIES, AND ARE THEREFORE NOT REUSABLE AS STRUCTURAL BACKFILL OR EMBANKMENT WITHIN THE ROADWAY CORE.

12. REGULAR EMBANKMENT SHALL BE DEFINED AS ALL GRADING MATERIALS THAT ARE APPROPRIATE FOR REUSE ON THE PROJECT BUT THAT MAY NOT MEET THE REQUIREMENTS OF SUITABLE GRADING MATERIALS. REGULAR EMBANKMENT MAY CONSIST OF GRADING SOILS NOT MEETING GRANULAR SPECIFICATIONS AND THEREFORE NOT SUITABLE FOR REUSE UNDER ROAD CORE. REGULAR EMBANKMENT MAY CONSIST OF TOPSOIL AND ORGANIC SOILS, UNLESS THE ENGINEER DETERMINES THESE SOILS ARE NOT REUSABLE, IN WHICH CASE THE CONTRACTOR SHALL REMOVE THEM FROM THE PROJECT LIMITS. REGULAR EMBANKMENT SHALL NOT CONSIST OF DEBRIS.

13. THE CONTRACTOR MAY SUBSTITUTE, AT NO COST TO MNDOT, THE AGGREGATE SHOULDERING CLASS 2 WITH AGGREGATE SHOULDERING CLASS 1 MOD. THE AGGREGATE SHOULDERING CLASS 1 MOD. SHALL BE MODIFIED SUCH THAT RECYCLED CRUSHED CONCRETE AND/OR BITUMINOUS SHALL BE INCORPORATED INTO THE MATERIAL. THE CRUSHED CONCRETE AND/OR BITUMINOUS SHALL BE BLENDED INTO A HOMOGENEOUS COMPOSITE MIXTURE. THE GRADATION OF THE COMPOSITE MIXTURE SHALL MEET THE GRADATION REQUIREMENTS OF CLASS 2 AGGREGATE, MNDOT SPEC. 3138.

14. SLOPE DRESSING ON THE PROJECT IS DEFINED AS THE TOPSOIL OR OTHER SOIL PLACED DURING PRIOR CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF.

15. UNLESS OTHERWISE REQUIRED, IN ANY NEW ROADWAY CORE EMBANKMENT CONSTRUCTION, THE UPPER 48" OF THE SUBGRADE SHALL BE CONSTRUCTED WITH GRANULAR MATERIAL OF WHICH THE UPPER 14" TO 20" SHALL BE SELECT GRANULAR MATERIAL AS SPECIFIED IN THE PLANS. THE REMAINDER OF THE SUBGRADE SHALL BE CONSTRUCTED WITH SUITABLE GRADING MATERIAL. EXCEPTIONS INCLUDE FILLING IN SENSITIVE BOTTOM OR STANDING WATER CONDITIONS AND IN RETAINING WALL AREAS.

16. UNLESS OTHERWISE SPECIFICALLY ALLOWED OR REQUIRED BY THE CONTRACT, BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE RECYCLED TO THE EXTENT ALLOWED IN BASE AND SURFACING ITEMS OR DISPOSED OF OUTSIDE THE RIGHT-OF-WAY IN ACCORDANCE WITH SPEC. 2104.3C3.

17. OBTAIN COMPACTION ON THE GRADING PORTIONS OF PERMANENT CONSTRUCTION, INCLUDING SELECT GRANULAR, IN ACCORDANCE WITH THE "SPECIFIED DENSITY METHOD" REQUIREMENTS, MN/DOT SPECIFICATION 2105.3F1.

18. COMPACTION OF THE AGGREGATE BASE LAYER SHALL BE OBTAINED IN ACCORDANCE WITH THE "PENETRATION INDEX METHOD". THE TEST SHALL BE PERFORMED IN ACCORDANCE WITH SECTION C4 AND C4A OF THE TECH MEMO NO. 99-08-MRR-04. THIS WOULD INCLUDE ANY AREAS WHERE CRUSHED CONCRETE OR SALVAGED ASPHALT MAY BE USED FOR AGGREGATE BASE.

19. OBTAIN COMPACTION ON GRADING PORTIONS OF TEMPORARY CONSTRUCTION IN ACCORDANCE WITH THE "QUALITY COMPACTION METHOD" REQUIREMENTS. TEMPORARY GRADING AND AGGREGATE BASE PORTIONS PLACED BY THE "QUALITY COMPACTION METHOD" SHOULD BE REMOVED AFTER CONSTRUCTION IS COMPLETE.

20. STABILIZING AGGREGATE SHALL BE INCORPORATED INTO THE SUBGRADE TO ACHIEVE SATISFACTORY SURFACE STABILITY IF DEEMED NECESSARY BY THE ENGINEER, IN ACCORDANCE WITH SPEC. 2105.3G. USE AN APPLICATION RATE OF APPROXIMATELY 200 POUNDS PER SQUARE YARD. STABILIZING AGGREGATE SHALL BE AT THE CONTRACTOR'S EXPENSE WHEN MATERIAL NEEDING STABILIZATION IS FURNISHED AS A BORROW ITEM

21. TEST ROLLING WILL NOT BE REQUIRED.

22. UNLESS OTHERWISE REQUIRED, IN ALL TREATMENTS, THE CONTRACTOR SHOULD STRIVE TO SUBSTANTIALLY MATCH THE SOILS INPLACE IN THE UPPER 5.0 FEET OF THE ROADWAY.

23. UNLESS OTHERWISE REQUIRED, ADD 1:20 TAPERS TO THE FULL DEPTH STATION LIMITS OF ALL SUBGRADE EXCAVATIONS. PROVIDE 1:20 TRANSITION TAPERS BETWEEN CHANGES IN SUBGRADE EXCAVATION DEPTHS LONGITUDINALLY. THE 1:20 TAPER SHALL BE CONSTRUCTED SO THAT THE GRANULAR BACKFILL MATERIAL OVERLAYS THE ADJACENT PLASTIC SOIL BACKFILL.

24. WHERE CONNECTING NEW SURFACING ADJACENT TO ANY INPLACE PAVEMENTS TO BE WIDENED, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT 2(V):1(H) SLOPE TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

25. WHERE CONNECTING TO THE INPLACE ROADWAYS AT THE TERMINI OF PROPOSED NEW CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:20 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

26. WHERE MATCHING INTO INPLACE CROSSROADS, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:4 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

27. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON THE EXISTING PAVEMENT. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.03 TO 0.05 GALLONS/SQ. YD. BETWEEN BITUMINOUS LAYERS AND 0.07 TO 0.10 GALLONS/SQ. YD. ON CONCRETE OR MILLED BITUMINOUS SURFACES PRIOR TO BEING OVERLAID. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY) OR MC AND RC LIQUID ASPHALTS. THE ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPECIFICATION 2357.

28. THE BITUMINOUS MIXTURE SHALL MEET THE MOST CURRENT REQUIREMENTS OF MNDOT SPECIFICATION 2360.

29. STRIP ALL TOPSOIL AND INPLACE SLOPE DRESSING WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. APPROXIMATE DIMENSIONS ENCOUNTERED ARE 0.5 FEET MINIMUM TO 2.0 FEET MAXIMUM.

30. QUANTITIES SHOWN ON THE EARTHWORK TABULATION REPRESENT ALL EARTHWORK QUANTITIES BELOW THE PROPOSED GRADING GRADE OF ALL PERMANENT ROADWAYS. QUANTITIES REQUIRED ABOVE THE GRADING GRADE OR FOR TEMPORARY CONSTRUCTION ARE PROVIDED IN DETAIL ON THE AGGREGATE AND SELECT GRANULAR SUMMARY TAB J.

31. FOR ALL ROADWAYS, UNLESS OTHERWISE REQUIRED, PROVIDE FOR A 26" TO 32" SUBCUT BELOW THE TOP OF THE GRADING GRADE TO ASSURE UNIFORMITY AND COMPACTION, THIS EQUATES TO 12" BELOW BOTTOM OF SUBBASE GRADE. THE BOTTOM OF THE SUBCUT SHALL BE SHAPED AND COMPACTED BY THE QUALITY COMPACTION METHOD WITH A MINIMUM OF 4 PASSES OF AN APPROVED ROLLER. REPLACEMENT FILL SHALL BE GRANULAR MATERIAL OF WHICH THE UPPER 14" TO 20" SHALL BE SELECT GRANULAR MATERIAL.

32. EXISTING UNPAVED AREAS SHALL BE CORRECTED, CORRECTION SHALL INCLUDE SUBCUTTING OF VEGETATION, SOILS CONTAINING SOD/ROOTS AND SIGNIFICANTLY ORGANIC SOILS WHEN CONSTRUCTING AN EMBANKMENT. ON GRADING SLOPES STEEPER THAN 1:4, CONSTRUCT STEPS IN SLOPE PER MN/DOT SPECIFICATION 2105.3B WHEN CONSTRUCTING AN EMBANKMENT.

33. AS A PRECAUTIONARY MEASURE FROM A SAFETY STANDPOINT, TRAFFIC LANES TO BE USED DURING DURING CONSTRUCTION MUST BE DELINEATED TO KEEP VEHICLES A SAFE DISTANCE AWAY FROM THE ADJACENT EXCAVATION. THE DELINEATION SHOULD COINCIDE WITH POINTS ESTABLISHED BY PROJECTING 1:2 OR GREATER (FLATTER) SLOPE BETWEEN THE EDGE OF THE TRAFFIC SURFACE AND THE BOTTOM OF THE EXCAVATION. WHERE THESE SLOPES ARE NOT POSSIBLE, CHEMICAL STABILIZATION OF THE SOILS OR A TEMPORARY RETAINING WALL WILL LIKELY BE NEEDED.

34. THE CONSTRUCTION LIMITS AS SHOWN IN THE PLANS REPRESENT THE POINT OF INTERSECTION BETWEEN THE REQUIRED FILL OR CUT SLOPE AND THE EXISTING GROUND LINE AS DEPICTED ON THE CROSS SECTIONS. THE CONSTRUCTION LIMITS DO NOT INCLUDE AREAS REQUIRED FOR SLOPE ROUNDING.

35. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT RIGHT OF WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER.

36. EXCESS UNSUITABLE SOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PROJECT AND DISPOSED OF IN ACCORDANCE WITH MN/DOT SPECIFICATIONS.

37. PIPE SEWERS CONNECTING MANHOLES AND CATCH BASINS SHALL BE IN ACCORDANCE WITH SPECIFICATION 2503. BEDDING AND BACKFILL SHALL CONSIST OF UNIFORM SUITABLE GRADING MATERIAL MATCHING ADJACENT SOILS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

38. THE ENGINEER SHALL SEE THAT THE TERMINI OF ALL PORTABLE CONCRETE MEDIAN BARRIER LOCATIONS FOR ONCOMING TRAFFIC ARE EITHER SET BACK AT LEAST 30 FEET FROM THE EDGE OF THE TRAVELED LANE OR WHATEVER DISTANCE DEEMED APPROPRIATE FOR THE SITUATION OR PROTECTED BY EXISTING GUARDRAIL OR SOME OTHER ATTENUATION DEVICE.

39. DISPOSITION OF EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH SPECIFICATION 2105.3D.

40. DELETED

41. HYDRAULIC SOIL STABILIZER TYPE 1 SHALL BE APPLIED ON A 3 FOOT WIDE STRIP ADJACENT TO THE BITUMINOUS SHOULDER OR CURB AND GUTTER, OVER THE SEED MIXTURE 350 AND DISC ANCHORED TYPE 3 MULCH.

42. REFER TO THE SPECIAL PROVISIONS FOR INFORMATION REGARDING A LINER FOR POND C.

43. SWAMP EXCAVATION – SWAMP DEPOSITS SHALL BE REMOVED FROM BENEATH THE ROADWAY CORE, INCLUDING LATERAL OVERSIZING, AS SHOWN IN THE TYPICAL SECTIONS AND IN ACCORDANCE WITH SECTION 5-2.02.01 OF THE MNDOT GEOTECHNICAL AND PAVEMENT MANUAL. IN SWAMP AREAS, EXCAVATION DEWATERING SHALL BE PERFORMED TO ALLOW COMPLETE OBSERVATION OF THE SOILS EXPOSED IN THE EXCAVATION BOTTOM. THE CONTRACTOR SHALL MAKE EVERY ATTEMPT TO COMPLETELY DEWATER THE EXCAVATION. IN THE EVENT THE CONTRACTOR HAS MADE EVERY ATTEMPT TO ACHIEVE COMPLETE DEWATERING OF THE EXCAVATION AND THE CONTRACTOR IS UNSUCCESSFUL IN ACHIEVING COMPLETE DEWATERING, THE CONTRACTOR SHALL BACKFILL THE WET AREAS WITH 5% MODIFIED SELECT GRANULAR TO A DEPTH OF 2 FEET ABOVE THE STANDING WATER LEVEL. THE PLANS AND TABULATIONS INDICATE ASSUMED QUANTITIES FOR 5% MODIFIED SELECT GRANULAR BASED ON ASSUMED HIGH WATER LEVELS. THIS DOES NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLETELY DEWATER THE SWAMP EXCAVATIONS TO THE BOTTOM OF THE EXCAVATION. IT IS ESSENTIAL THAT THE BOTTOM OF ALL SWAMP EXCAVATIONS CAN OBSERVED TO CONFIRM THAT ALL ORGANIC SOILS HAVE BEEN REMOVED. DEWATERING SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 5-2.04 OF THE MNDOT GEOTECHNICAL AND PAVEMENT MANUAL.

44. TOPSOIL BLENDING – THE CONTRACTOR SHALL HAVE THE OPTION TO BLEND ON SITE SOILS TO MEET THE REQUIREMENTS OF MNDOT 3877 FOR REUSE AS TOPSOIL. THE MAJORITY OF THE ON SITE SLOPE DRESSING DOES NOT MEET THE REQUIREMENTS OF 3877 DUE TO HIGH SAND AND GRAVEL CONTENT AND TOO LITTLE CLAY AND SILT. ADDITIONALLY, SOME OF THE ONSITE SLOPE DRESSING CONTAINS TOO LITTLE ORGANIC MATTER FOR REUSE AS TOPSOIL. IF THE CONTRACTOR IS SUCCESSFUL IN BLENDING ON SITE SOILS TO CREATE TOPSOIL MEETING MNDOT 3877, THE CONTRACTOR SHALL BE REIMBURSED UNDER THE ITEM FOR TOPSOIL BORROW IN THE BID PROPOSAL FOR TOPSOIL MANUFACTURED ON SITE. THE MIXING AND PLACEMENT OF THE SOILS SHALL BE INCIDENTAL TO PAYMENT UNDER THE ITEM FOR TOPSOIL BORROW. IT SHALL BE THE CONTRACTORS OPTION TO REMOVE ON SITE SOILS AND IMPORT TOPSOIL BORROW OR TO BLEND ON SITE SOILS TO CREATE TOPSOIL.

45. WOOD CHIPS-WOOD CHIPS SHALL BE CUT FROM SOUND LIVE TREES OF ANY SPECIES AND MAY BE EITHER "CLEAN CHIPS" CUT FROM DEBARKED TREE TRUNKS OR "TOTAL FREE CHIPS" CUT FROM WHOLE TREES (INCLUDING BARK AND BRANCHES BUT EXCLUDING LEAVES). THE CHIPS SHALL HAVE A MINIMUM NOMINAL LENGTH OF ¾ INCHES, WIDTH OF ½ INCH OR MORE AND A MAXIMUM FIBER LENGTH OF 6 INCHES.

46. CULVERTS SHALL BE INSTALLED USING A FROST PENETRATION DEPTH OF 5'. IN AREAS WHERE LOW FROST SUSCEPTIBLE SOILS ARE PRESENT (SANDS/SELECT GRANULAR) FROST TAPERS SHOULD NOT BE NECESSARY.

47. NORTHDALE BOULEVARD SURCHARGE AREA (STATION 7+50 TO 12+50) – THE DITCH AREA SHALL BE FILLED IN WITH NON-ORGANIC FILL TO PROPOSED GRADE, PLUS AN ADDITIONAL 3' ABOVE FINAL STREET GRADE TO ACT AS A SURCHARGE. THE SURCHARGE SHALL BE APPLIED AS EARLY IN THE CONSTRUCTION SCHEDULE AS POSSIBLE. THE SURCHARGE SHALL BE IN PLACE FOR A MINIMUM OF TWO MONTHS PRIOR TO ANY ROAD CONSTRUCTION ON NORTHDALE BOULEVARD. THE SURCHARGE SHALL REMAIN LONGER THAN TWO MONTHS IF POSSIBLE.

48. NORTHDALE BOULEVARD CONSTRUCTION – FOR FINAL SUBGRADE PREPARATION IN THE DITCH AREAS, THE RECENTLY PLACED FILL IN THE DITCHES FOR TEMPORARY BYPASS CONSTRUCTION SHOULD BE RE-SUBCUT, PLUS AN ADDITIONAL 1' SUBCUT BENEATH THE ORIGINAL GRADE. THE SALVAGED LIGHTWEIGHT FILL SHOULD BE REUSED AS FILL WITHIN THE DITCH AREA EXCEPT IN THE UPPER PAVEMENT SECTION CONSISTING OF SELECT GRANULAR BORROW, CLASS 5 AND BITUMINOUS AS SHOWN IN THE PLANS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IRK | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: SOILS
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
SOILS AND CONSTRUCTION NOTES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 20 / 681

PLOT DATE: Jan 17 10:15am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-SOIL

Xref'd Drawings
REF-DWG-BDR
22x34bdr

CLEARING AND GRUBBING — B

ROADWAY	STATION TO STATION [2]	OFFSET [2]	2101 CLEARING TREE	2101 GRUBBING TREE
INTERCHANGE - S.P. 0215-59, 114-010-14				
EB 10/47	337+25	100' RT	1	1
	338+00	100' RT	1	1
	340+50	114' RT	1	1
	341+50-342+50	110'-140 'RT	3	3
	342+75-343+25	110'-140' RT	4	4
	343+75-345+00	110'-140' RT	7	7
	363+75	100' RT	1	1
	366+30	120' RT	1	1
	368+80	100' RT	1	1
WB 10/47	365+25	100' LT	1	1
	370+88	56' LT	1	1
	371+20	49' LT	1	1
	372+53	49' LT	1	1
RAMP A	18+11 [1]	147' LT	1	1
	18+16 [1]	262' LT	1	1
	18+42 [1]	133' LT	1	1
POND C	8+50 [1]	173' LT [1]	2	2
	9+00-10+50 [1]	137'-200' LT [1]	21	21
POND D	10+40 [1]	100' RT [1]	2	2
	10+75 [1]	260'-325' RT [1]	5	5
INTERCHANGE - S.P. 0215-59, 114-010-14 SUBTOTAL			57	57
CSAH - S.P. 02-611-29, 114-020-28				
HANSON BLVD. NORTH	18+50	130' LT	1	1
	19+00-20+00	135'-154' LT	9	9
	19+75	125' LT	3	3
	19+75-20+30	80' RT	2	2
	21+23	65' RT	1	1
	21+95	73' RT	1	1
	22+45	66' RT	2	2
NORTHDALE BLVD.	2+00	50' RT	1	1
	6+00	50' RT	3	3
	8+00	62' LT	1	1
	8+00-8+54	52' RT	3	3
	9+85	56' LT	1	1
	10+00-11+00	56' LT	3	3
	11+00-12+00	57' LT	3	3
	12+00-13+00	60' LT	7	7
CSAH - S.P. 02-611-29, 114-020-28 SUBTOTAL			41	41
CSAH - S.P. 02-678-17, 114-020-28				
HANSON BLVD. NORTH	27+00	60' RT	1	1
	28+00	64' RT	1	1
	28+00	59' LT	1	1
	29+00	50' RT	1	1
	34+26	59' RT	1	1
CSAH - S.P. 02-678-17, 114-020-28 SUBTOTAL			5	5
PROJECT TOTALS:			103	103

NOTES:
[1] HANSON BOULEVARD STATION AND OFFSET
[2] HANSON BLVD AND NORTHDALE BLVD STATION AND OFFSETS ARE BASED ON CENTERLINE ALIGNMENTS

REMOVE CHAIN LINK FENCE — C

ROADWAY	STATION TO STATION	OFFSET	2104 REMOVE CHAIN LINK FENCE LIN FT
INTERCHANGE - S.P. 0215-59, 114-010-14			
EB TH10/47	335+00 - 352+10	100' - 375' RT	1760
INTERCHANGE - S.P. 0215-59, 114-010-14 & PROJECT TOTALS			**1760**

REMOVE GUARDRAIL — F

ROADWAY	STATION - STATION	OFFSET	2104 REMOVE ECCENTRIC LOADER BCT EACH	2104 REMOVE ANCHORAGE ASSEMBLY PLATE-BEAM EACH	2104 REMOVE ANCHORAGE ASSEMBLY CABLE EACH	2104 REMOVE CABLE GUARD RAIL LIN FT	2104 REMOVE GUARD RAIL-PLATE BEAM LIN FT
CSAH - S.P. 02-611-29, 114-020-28							
HANSON BOULEVARD	18+12 - 19+60	LT 32-45'	1	1			160
CSAH - S.P. 02-611-29, 114-020-28 SUBTOTAL			**1**	**1**	**0**	**0**	**160**
INTERCHANGE - S.P. 0215-59, 114-010-14							
HANSON BOULEVARD	12+43 - 13+42	RT	1				101
	12+43 - 13+42	LT	1				102
	15+30 - 16+31	RT	1				102
	15+30 - 16+31	LT	1				101
TH 10/47	340+50 - 342+39	RT			2	178	
	351+38 - 352+70	RT	1				130
	353+61 - 355+00	LT	1				129
	352+00 - 354+00	MEDIAN					400
RAMP A	HANSON 17+35 - 18+07	LT 52-185'			2		160
INTERCHANGE S.P. 0215-59, 114-010-14 SUBTOTAL			**6**	**0**	**4**	**178**	**1225**
PROJECT TOTALS			**7**	**1**	**4**	**178**	**1385**

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TAB-1
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 21 / 681

PLOT DATE: Jan 07 11:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH\TAB-1.dwg

Xref'd Drawings
REF-DWG-BDR
22x34bdr

DRAINAGE REMOVALS

D

LOCATION		ITEM INPLACE	2104 REMOVE SEWER PIPE (STORM)	2104 REMOVE CONCRETE CULVERT	2104 REMOVE METAL CULVERT	2104 REMOVE CONCRETE APRON	2104 REMOVE METAL APRON	2104 REMOVE MISC. STRUCTURE	2104 REMOVE MANHOLE OR CATCH BASIN	2104 REMOVE CASTING	2104 SALVAGE CONCRETE APRON	NOTES
ROADWAY / STATION	OFFSET		LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	EACH	
CSAH - S.P. 02-611-29, 114-020-28												
HANSON BOULEVARD												
3+98	36 RT	MH							1			
4+02 - 5+26	35 - 37 RT	12" RCP	119									
5+07 - 5+15	41 - 44 LT	12" RCP	9									
5+16 - 5+28	3 - 31 RT	12" RCP	30									
5+26	35 RT	CB							1			
5+16	4 RT	CB							1			
5+14 - 5+15	8 - 2 LT	12" RCP	6									
5+14	8 LT	CB							1			
5+12	14 - 36 LT	12" RCP	24									
4+00	48 LT	CB							1			
4+02 - 5+00	47 - 40 LT	18" RCP	104									
5+03	40 LT	CB							1			
5+06 - 6+08	40 - 34 LT	18" RCP	104									
6+11	33 LT	CB							1			
6+14 - 7+22	34 - 42 LT	RCP	108									
6+15 - 6+21	37 - 43 LT	12" RCP	9									
6+69	35 RT	CB							1			
6+97	38 RT	MH							1			
6+72 - 6+93	35 - 37 RT	RCP	22									
7+08	5 LT	MH							1			
7+01	5 LT	CB							1			
6+98 - 7+07	34 RT- 1 LT	RCP	36									
7+09 - 7+24	9 - 38 LT	RCP	33									
7+26	42 LT	MH							1			
7+14 - 7+25	45 - 74 LT	RCP	31									
7+13	77 LT	CB							1			
7+14	84 RT	CB								1		
7+30 - 8+26	42 - 46 LT	RCP	96									
7+59	76 LT	CB							1			
7+62 - 7+83	75 - 71 LT	RCP	21									
7+86	70 LT	CB							1			
7+86 - 8+26	48 LT	RCP	46									
8+05	102 LT	CB							1			
8+06 - 8+37	99 - 70 LT	RCP	43									
8+39	68 LT	CB							1			
8+29 - 8+38	49 - 66 LT	RCP	19									
8+01 - 8+27	2 RT- 44 LT	RCP	54									
7+99	6 RT	MH							1			
8+14	35 RT	MH							1			
8+01 - 8+13	9 - 32 RT	RCP	25									
8+04 - 8+10	4 - 6 RT	RCP	6									
8+12	6 RT	CB							1			
8+17 - 8+47	36 - 51 RT	RCP	33									
8+29	46 LT	MH							1			
8+50	52 RT	CB							1			
8+53 - 8+56	53 RT	RCP	3									
8+58	52 RT	CB							1			
8+32 - 10+15	46 - 61 LT	RCP	183									
10+19	61	MH							1			
10+21 - 10+51	64 - 116 LT	RCP	53			1						
17+00	4 LT	CB							1			
17+00	15.5 LT	CB							1			
17+00	7 - 13 LT	RCP	6									
17+42	31 RT	CB							1			
17+03 - 17+39	1 LT- 28 RT	RCP	48									
17+47	40 LT	CB							1			
17+03 - 17+45	17- 39 LT	RCP	47									
17+50 - 18+35	43 - 127 LT	RCP	114			1						
20+46	3 RT	CB							1			
20+46	0 - 7 LT	12" CMP	7									
20+46	10 LT	CB							1			
20+47 - 20+50	13 - 92 LT	12" CMP	73				1					
21+78	42 RT	CB							1			
21+77	32 LT	CB							1			
21+78	29 LT - 38 RT	12" RCP	68									
21+77	36 - 77 LT	12" RCP	35			1						
23+23	42 RT	CB							1			
23+53	29 LT	CB							1			

SEE SHEET 4 OF 13 FOR NOTES

PLOT DATE: Jan 2007 11:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH TAB-2.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TAB-2
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

Xref'd Drawings
REF-DWG-BD
22x34bdr

DRAINAGE REMOVALS

D

LOCATION		ITEM INPLACE	2104 REMOVE SEWER PIPE (STORM)	2104 REMOVE CONCRETE CULVERT	2104 REMOVE METAL CULVERT	2104 REMOVE CONCRETE APRON	2104 REMOVE METAL APRON	2104 REMOVE MISC. STRUCTURE	2104 REMOVE MANHOLE OR CATCH BASIN	2104 REMOVE CASTING	2104 SALVAGE CONCRETE APRON	NOTES
ROADWAY / STATION	OFFSET		LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	EACH	
23+24 -23+52	38 RT- 26 LT	12" RCP	70									
23+26 - 23+60	45 - 75 RT	12" RCP	46									
23+52 - 23+53	32 - 65 LT	12" RCP	27			1						
NORTHDALE BOULEVARD												
0+78	28 RT	CB							1			
0+83 - 0+88	27 RT	RCP	5									
0+92	27 RT	MH							1			
3+00	37 LT- 32 RT	24" CMP			70							
7+34 - 7+75	73 - 58 RT	18" CMP			48							
11+08 - 11+51	34 RT	18" CMP			43							
12+56 - 12+87	38 - 39 RT	15" CMP			31							
13+07 - 13+56	37 - 40 RT	15" CMP		50								
15+61 - 15+85	50 - 51 LT	36" CMP			23							
16+20	23 RT- 25LT	APR					2					
CSAH - S.P. 02-611-29, 114-020-28 SUBTOTAL			1763	50	215	4	3	0	36	1	0	
CSAH - S.P. 02-678-17, 114-020-28												
HANSON BOULEVARD												
24+16	77 RT	CB							1			
24+70	30 RT	CB							1			
24+19 - 24+66	74 - 33 RT	12" RCP	64									
24+68	15 RT	MH							1			
24+70	19 - 27 RT	RCP	8									
24+66 - 24+68	24 LT- 11 RT	15" RCP	35									
24+66	27 LT	CB							1			
24+65 - 24+66	30 - 54 LT	RCP	20			1						
29+35	24 RT	CB							1			
29+35	29 LT	CB							1			
29+35	21 RT- 26 LT	12" RCP	47									
29+35 - 29+38	32 - 63 LT	RCP	25			1						
33+75	67 RT	36" RCP APRON									1	
CSAH - S.P. 02-678-17, 114-020-28 SUBTOTAL			199	0	0	2	0	0	6	0	1	
CSAH TOTAL			1962	50	215	6	3	0	42	1	1	
HANSON INTERCHANGE												
11+34	34 RT	CB							1			
11+37 - 11+61	31 - 12 RT	RCP	31									
11+64	1 LT	CB							1			
11+64	10 RT	CB							1			
11+64	1 - 7 RT	RCP	6									
11+40 - 11+61	34 - 4 LT	RCP	36									
11+37	37 LT	CB							1			
11+40 - 12+07	40 - 122 LT	RCP	100			1						
13+11	38 LT	CB							1			
13+12	33 RT	CB							1			
13+11 - 13+12	35 LT- 29 RT	RCP	65									
13+12 - 13+24	41- 128 LT	RCP	82			1						
13+63 - 13+68	102 LT - 108 RT	RCP		211								
15+08 - 15+12	103 RT- 105 LT	RCP		209								[2]
15+62	32 RT	CB							1			
15+62	39 RT	CB							1			
15+62	28 RT- 36 LT	RCP	65									
15+60 -15+62	126 - 42 LT	RCP	79			1						
RAMP A												
141+92	2 RT	APR				1						
142+00	3 RT	APR				1						
142+09	4 RT	APR				1						
144+13	34 RT	CB							1			
144+13	3 - 31 RT	RCP	22			1						
145+01	32 RT	CP							1			
145+00 - 144+99	29 RT - 1 LT	RCP	24			1						
145+70	19 RT	CB							1			
145+67 - 145+70	5 LT- 16 RT	RCP	16			1						
147+18 - 147+36	38 LT- 24 RT	RCP		64								
147+38	13 LT	CB							1			
147+30 - 147+37	16 - 42 LT	RCP	21			1						

SEE SHEET 4 OF 13 FOR NOTES

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 23 / 681

PLOT DATE: Jan. 2007 11:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERT\ -TAB-3.dwg

Xref'd Drawings
REF-DWG-BD
22x34b.dr

DRAINAGE REMOVALS

LOCATION		ITEM INPLACE	2104 REMOVE SEWER PIPE (STORM)	2104 REMOVE CONCRETE CULVERT	2104 REMOVE METAL CULVERT	2104 REMOVE CONCRETE APRON	2104 REMOVE METAL APRON	2104 REMOVE MISC. STRUCTURE	2104 REMOVE MANHOLE OR CATCH BASIN	2104 REMOVE CASTING	2104 SALVAGE CONCRETE APRON	D NOTES
ROADWAY / STATION	OFFSET		LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	EACH	
RAMP B2												
256+97	93 LT	CB							1			
256+98 - 257+04	96 - 114 LT	RCP	19									
257+05	118 LT	MH							1			
257+10 - 257+94	102 - 118 LT	RCP	79			1						
259+31	5 LT	CB							1			
259+32 - 259+41	7 - 45 LT	RCP	33			1						
261+23	40 RT	CB							1			
261+23 - 261+25	37 - 17 RT	RCP	14			1						
261+69	44 RT	CB							1			
261+69 - 261+72	41 - 20 RT	RCP	15			1						
RAMP C1												
441+93	16 LT	APR				1						
442+00	16 LT	APR				1						
442+10	16 LT	APR				1						
442+12 - 442+17	9 - 69 RT	RCP	56			1						
442+83	72 RT	WEIR						1				[1]
443+87	113 RT	15" RC APR									1	
444+58	27 LT	CB							1			
444+58 - 444+56	24 LT - 5 RT	RCP	24			1						
444+64	116 RT	30" RC APR									1	
445+04	23 RT	CB							1			
445+03 - 444+99	20 LT - 12 RT	RCP	26			1						
446+73 - 446+92	48 RT - 23 LT	RCP		74								
446+98	18 RT	CB							1			
446+89 - 446+97	56 RT- 21 RT	RCP	30			1						
449+92	69 RT	CB							1			
448+78 - 448+91	122 RT- 72 RT	RCP	46			1						
RAMP D												
555+59 - 555+72	217 - 214 RT	12" PVC	17									
558+74	14 RT	CB							1			
558+75 - 558+81	16 - 34 RT	RCP	13			1						
560+66	33 LT	CB							1			
560+65 - 560+70	30 - 6 LT	RCP	19			1						
561+46	42 LT	CB							1			
561+46 - 561+47	39 - 18 LT	RCP	15			1						
CONNECTION D												
954+46 - 954+62	164 - 218 RT	36" RCP	50			1						
954+45	161 RT	CB							1			
954+44	159 - 70 RT	36" RCP	89									
954+21	69 RT	MH							1			
954+22 - 954+41	68 - 44 RT	36" RCP	25			1						
EB T.H. 10/47												
341+89	31 LT	APR				1						
342+13	32 LT	APR				1						
380+99	17 RT	APR				1						
WB T.H. 10/47												
354+51	34 LT	APR				1						
354+51	20 - 28 RT	18" RCP	2			1						
370+98	6 LT	APR				1						
INTERCHANGE TOTAL			1119	558	0	33	0	1	26	0	2	
PROJECT TOTALS			**3081**	**608**	**215**	**39**	**3**	**1**	**68**	**1**	**3**	

NOTES:
[1] TREATED TIMBER BAFFLED WEIR AND INCLUDES REMOVING 38+/- CU. YD. RANDOM RIPRAP CLIII, INCIDENTAL.
[2] PIPE TO REMAIN IN PLACE UNTIL STAGE 2, PHASE 1 CONSTRUCTION TO MAINTAIN DRAINAGE

STATIONING AND OFFSETS ARE BASED ON CENTERLINE ALIGNMENTS

TEMPORARY DRAINAGE
THE CONTRACTOR SHALL COORDINATE THE REMOVAL OF INPLACE DRAINAGE PIPES AND STRUCTURES WITH THE CONTRACTORS STAGING PLAN TO ENSURE POSITIVE DRAINAGE WITHIN THE PROJECT LIMITS.
ALL STORM SEWER FACILITIES DESIGNATED ON THE PLAN FOR REMOVAL SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR. ABANDONING STRUCTURES AND PIPES IN PLACE SHALL NOT BE ALLOWED.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
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DATE: NOVEMBER 10, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 24 / 681

PLOT DATE: 2007 11:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ER -TAB-4.dwg

Xref'd Drawings
REF-DWG-BDR
22x34bdr

REMOVE CURB AND GUTTER — E

ROADWAY	STATION TO STATION	OFFSET	2104 REMOVE CURB AND GUTTER. LIN FT
INTERCHANGE - S.P. 0215-59, 114-010-14			
HANSON BLVD.	11+86-13+42	RT	156
	11+86-13+42	LT	156
	11+86-13+42	CL	312
	15+30-16+90	RT	161
	15+30-16+90	LT	161
	15+30-16+90	CL	321
RAMP A	344+78-352+10 LT 20'-270' OF CL WB 10	RT/LT	1692
RAMP B	354+00-362+35 LT 30'-280' OF CL WB 10	RT/LT	1785
RAMP C	343+90-352+30 RT 30'-280' OF CL EB 10	RT/LT	1784
RAMP D	354+00-361+60 RT 25'-275' OF CL EB 10	RT/LT	1659
INTERCHANGE - S.P. 0215-59, 114-010-14 SUBTOTAL			**8188**
CSAH - S.P. 02-611-29, 114-020-28			
NORTH HANSON BLVD.	18+00 - 23+92	RT	625
	16+90 - 17+70	RT	90
	17+60 - 23+92	LT	603
	16+90 - 17+60	LT	107
	18+00 60' LT	ISLAND	114
	17+80 - 20+50	CL	533
	16+90 - 17+10	CL	26
	20+82 - 22+82	RT 85'	200
SOUTH HANSON BLVD.	3+90	RT	375
	3+20 - 7+00	CL	372
	4+00 - 4+60	LT	97
	5+00 - 7+52	LT	304
	7+45 - 11+00	RT	364
	7+52 - 11+00	LT	335
	7+50 RT 80'	CL	70
	7+65 LT 70'	CL	107
	8+00 LT 60'	ISLAND	115
	8+12 - 10+80	CL	559
	10+75 RT 60'	ISLAND	133
	11+00 - 11+87	RT	85
	11+00 - 11+87	LT	104
	11+65 - 11+87	CL	54
NORTHDALE BLVD.	0+82 - 2+80	RT	55
	0+82 - 2+70	LT	37
	2+80 - 6+00	RT	75
CSAH - S.P. 02-611-29, 114-020-28 SUBTOTAL			**5539**
CSAH - S.P. 02-678-17, 114-020-28			
NORTH HANSON BLVD.	31+00 - 34+34	RT	349
	27+00 - 30+33	RT	391
	23+92 - 26+30	RT	321
	23+92 - 32+95	LT	930
CSAH - S.P. 02-678-17, 114-020-28 SUBTOTAL			**1991**
PROJECT TOTALS:			**15718**

REMOVE MISCELLANEOUS CONCRETE ITEMS — G

ROADWAY	STATION TO STATION	OFFSET	2104 REMOVE CONCRETE WALK [1] SQ FT	2104 REMOVE CONCRETE NOSE [2] SQ FT	2104 REMOVE CONCRETE DRIVEWAY PAVEMENT [3] SQ YD	2104 REMOVE CONCRETE APPROACH PANEL [4] SQ YD
INTERCHANGE - S.P. 0215-59, 114-010-14						
HANSON BLVD.	11+87-13+44	RT	1069			
	11+87-13+44	LT	876			
	11+87-13+44	CL	874			171
	15+30-16+91	RT	1060			
	15+30-16+91	LT	991			
	15+30-16+91	CL	889			171
RAMP A	344+80-345+20	LT 21' CL WB 10/47		140		
RAMP B	362+30	LT 21' CL WB 10/47		14		
RAMP C	343+95	RT 21' CL EB 10/47		19		
RAMP D	361+10-361+60	RT 21' CL EB 10/47		202		
INTERCHANGE - S.P. 0215-59, 114-010-14 SUBTOTALS			**5759**	**375**	**0**	**342**
CSAH - S.P. 02-611-29, 114-020-28						
HANSON BLVD. SOUTH						
	4+78 - 5+10	LT			45	
	5+10-7+52	LT	1558			
	4+00-7+60	RT	2307			
	4+00-7+00	CL	2064			
	4+04 - 4+78	LT	373			
	7+52-11+00	LT	2645			
	7+60-11+00	RT	2147			
	7+60-11+00	CL	1725			
	11+00-11+87	LT	329			
	11+00-11+87	RT	342			
	11+00-11+87	CL	159			
	7+00	CL		23		
	7+50	RT 80'		46		
	7+65	LT 70'		23		
	8+13	CL		23		
	11+60	CL		23		
HANSON BLVD. NORTH	16+91-24+00	RT	2817			
	16+91-24+00	LT	3078			
	16+91-20+50	CL	3816			
	17+00	CL		25		
	20+54	CL		45		
NORTHDALE BLVD.	0+82-4+00	LT	1185			
	2+60	LT 26'			110	
CSAH - S.P. 02-611-29, 114-020-28 SUBTOTALS			**24545**	**208**	**155**	**0**
CSAH - S.P. 02-678-17, 114-020-28						
HANSON BLVD. NORTH						
	24+00 - 34+34.32	RT	4887			
	32+07 - 32+94.22	LT	434			
	26+70	RT 32'			60	
	30+70	RT 25'			60	
CSAH - S.P. 02-678-17, 114-020-28 SUBTOTALS			**5321**	**0**	**120**	**0**
PROJECT TOTALS			**35625**	**583**	**275**	**342**

NOTES:
[1] DEPTH OF CONCRETE WALK IS ESTIMATED TO BE 4" - 6" NON-REINFORCED.
[2] DEPTH OF CONCRETE NOSE ASSUMED TO BE 6" NON-REINFORCED.
[2] DEPTH OF CONCRETE DRIVEWAY PAVEMENT IS ESTIMATED TO BE 6" - 8" REINFORCED.
[4] DEPTH OF CONCRETE APPROACH PANELS ASSUMED TO BE 12" REINFORCED.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
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CHKED. BY: SAW | DWG. NAME: TAB-5
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
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612.370.0700 Tel
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TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS

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S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 25 / 681

PLOT DATE: 2007 11:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ER -TAB-5.dwg

Xref'd Drawings
REF--DWG--BD
22x34bdr

BITUMINOUS PAVEMENT REMOVAL — H

ROADWAY	STATION TO STATION	OFFSET	2104 REMOVE BITUMINOUS PAVEMENT SQ YD	2104 REMOVE BITUMINOUS SURFACING SQ YD	NOTES
INTERCHANGE - S.P. 0215-59, 114-010-14					
HANSON INTERCHANGE	11+86 - 13+44	RT	509		[2]
	11+86 - 13+44	LT	732		[2]
	15+30 - 16+90	RT	743		[2]
	15+30 - 16+90	LT	533		[2]
RAMP A	344+78 - 352+10	LT	1876		[2]
RAMP A ACC. LANE	337+90 - 346+00	LT	886		[3]
RAMP B	354+00 - 362+35	LT	3499		[2]
RAMP B DEC. LANE	361+61 - 368+80	LT	1408		[3]
RAMP C	343+90 - 352+30	RT	2042		[2]
RAMP C DEC. LANE	338+30 - 344+60	RT	1267		[3]
RAMP D	354+00 - 361+60	RT	1815		[2]
RAMP D ACC. LANE	360+40 - 370+00	RT	1232		[3]
MAINLINE TH 10/47	332+29 - 344+00	RT	929		[2]
	360+41 - 384+55	RT	2085		[2]
	327+35 - 344+00	LT	1763		[2]
	362+50 - 376+47	LT	1062		[2]
	351+67 - 354+49	RT	320		[2]
	351+90 - 354+58	LT	272		[2]
INTERCHANGE - S.P. 0215-59, 114-010-14 SUBTOTAL			**22973**	**0**	
CSAH - S.P. 02-611-29, 114-020-28					
HANSON BLVD. SOUTH	4+00 - 7+60	RT	1822		[2]
	3+90 - 7+60	LT	1823		[2]
	7+60 - 11+86	RT	2746		[2]
	7+60 - 11+86	LT	3157		[2]
	5+00	LT 44'		53	
HANSON BLVD. NORTH	16+90 - 21+00	RT	2145		[2]
	16+90 - 21+00	LT	2188		[2]
	21+00 - 23+92	RT/LT	2583		[2]
NORTHDALE BLVD.	0+38 - 19+75	RT/LT	8536		[1]
	2+60	RT		85	
	7+50	RT		137	
	11+30	RT		69	
TEMP. BYPASS 1	0+72 - 19+75	RT	3810		[1]
TEMP. BYPASS 2	11+21 - 19+75	LT	711		[1]
CSAH - S.P. 02-611-29, 114-020-28 SUBTOTAL			**29521**	**344**	
CSAH - S.P. 02-678-17, 114-020-28					
HANSON BLVD. NORTH	23+92 - 34+34	RT/LT	6086		[2]
	26+70	RT 64'		119	
	30+70	RT 42'		34	
CSAH - S.P. 02-678-17, 114-020-28 SUBTOTAL			**6086**	**153**	
PROJECT TOTALS:			**58580**	**497**	

NOTE:
[1] ROADWAY AVERAGE THICKNESS IS 6" +/-
[2] ROADWAY AVERAGE THICKNESS IS 7" +/-
[3] ROADWAY AVERAGE THICKNESS IS 12" +/-

SAWING CONCRETE AND BITUMINOUS PAVEMENT — I

ROADWAY	STATION TO STATION	OFFSET	2104 SAWING BIT PAVEMENT (FULL DEPTH) LIN FT	2104 SAWING CONCRETE PAVEMENT (FULL DEPTH) [4] LIN FT
INTERCHANGE - S.P. 0215-59, 114-010-14				
EASTBOUND TH 10/47	332+29 - 344+60	RT	1253	5
	351+67 - 354+49	RT	302	5
	360+41 - 386+21	RT	2600	5
WESTBOUND TH10/47	327+32 - 346+00	LT	1878	5
	351+90 - 354+58	LT	288	5
	361+65 - 376+46	LT	1507	5
INTERCHANGE - S.P. 0215-59, 114-010-14 SUBTOTALS			**7828**	**30**
CSAH - S.P. 02-611-29, 114-020-28				
HANSON BLVD. NORTH	21+00 - 23+00	RT 55'	200	
	23+30 - 23+92	CL-RT 90'	62	
HANSON BLVD. SOUTH	3+95 - 7+40	LT 24-122'	470	
	4+80	LT 52-57'		7
	5+15	LT 52-57'		7
	3+92 - 7+30	RT 28-108'	420	
	3+90	RT45-50'		7
	7+00 - 7+05	RT 108'		7
	7+06 - 7+11	LT 122'		7
	7+20 - 7+80	LT 132'- RT 117'	280	
	8+00 - 8+05	RT 105'		7
	8+08 - 8+13	LT 125'		5
	3+20 - 7+10	LT 22'- RT 22'	890	
	7+35 - 7+75	LT 28'- RT 123'	270	
	7+60 - 7+74	LT 123'		18
	7+25 - 7+70	RT 32-107'	240	
	7+45 - 7+67	RT 107		24
NORTHDALE BLVD.	0+70 - 19+85	RT 12-32'	1935	
	2+58 - 2+82	RT 58'	24	
	5+65 - 6+00	RT 55'	35	
	7+40 - 7+56	RT 55'	16	
	17+90 - 18+50	RT 19-28'	110	
	1+00 - 19+75	CL-LT 24'	1940	
	0+70 - 16+00	CL-RT 18'	1530	
	2+58 - 2+82	RT 58'	24	
	5+65 - 6+00	RT 55'	35	
	7+40 - 7+56	RT 70'	16	
CSAH - S.P. 02-611-29, 114-020-28 SUBTOTALS			**8497**	**89**
CSAH - S.P. 02-678-17, 114-020-28				
HANSON BLVD. NORTH				
	24+25 - 32+94.7	CL-LT	905	
	32+94.22	LT 33-38'		7
	23+95	LT 52'-RT 70'	122	
	24+65 - 34+34	CL-RT	1135	
	34+34	RT 39.5-44		7
	26+35 - 26+86	RT 60'	90	
	30+49 - 30+79	RT 30-40	50	
	23+95 - 25+00	CL-RT 100'	320	
	23+92 - 24+25	CL-RT 90'	58	
CSAH - S.P. 02-678-17, 114-020-28 SUBTOTAL			**2680**	**14**
PROJECT TOTALS			**19005**	**133**

NOTES:
[4] INCLUDES CONCRETE WALK, DRIVEWAY PAVEMENT, AND CURB AND GUTTER

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TAB-6
DATE: NOVEMBER 10, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 26 / 681

PLOT DATE: Jan 2007 11:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ER; -TAB-6.dwg

Xref'd Drawings
REF-DWG-BDR
22x34bdr

AGGREGATE AND SELECT GRANULAR SUMMARY — J

ROADWAY	STATION TO STATION	OFFSET	2211 AGGREGATE BASE CL 5 CU YD	2105 SELECT GRANULAR BORROW (CV) CU YD	2221 AGGREGATE SHOULDERING CL 2 MOD. TON	NOTES
INTERCHANGE - S.P. 0215-59, 114-010-14						
HANSON BLVD.	11+87.46 - 16+90.98	RT	442	872		
	11+87.46 - 16+90.98	LT	428	858		
	11+87.46 - 16+90.98	MEDIAN	61			
	13+20.83 - 15+53.83	APPROACH PANEL	177	262		
RAMP A	138+68.91 - 151+71.73	ROAD	1,280	2,778	14	
	151+71.73 - 152+29.73	APPROACH PANEL	70	268		
	138+68.91 - 151+71.73	SIDEWALK	11			
	138+68.91 - 151+71.73	MAINT STRIP	20			
RAMP B	254+60 - 270+24.19	ROAD	1,798	2,931	25	
	254+10.17 - 254+60.36	APPROACH PANEL	65	232		
	254+60 - 270+24.19	SIDEWALK	11			
	254+60 - 270+24.19	MAINT STRIP	25			
RAMP C	438+44.93 - 451+54.31	ROAD	1,637	3,559	95	
	451+54.31 - 452+08.56	APPROACH PANEL	71	270		
	438+44.93 - 451+54.31	SIDEWALK	10			
	438+44.93 - 451+54.31	MAINT STRIP	23			
RAMP D	554+68 - 573+89.24	ROAD	1,837	3,214	47	
	554+09.63 - 554+67.72	APPROACH PANEL	70	276		
	554+68 - 573+89.24	SIDEWALK	11			
	554+68 - 573+89.24	MAINT STRIP	19			
EB TH10/47	332+29.07 - 338+44.10	DECEL LANE	451	869	336	
	338+44.10 - 373+87.12	SHOULDER	382			
	351+58.89 - 354+54.48	SHLD. UNDER BRIDGE	269	373		
	351+63.89 - 354+49.48	WALK UNDER BRIDGE	33			
	373+87.12 - 386+20.49	ACCEL LANE	921	1,644		
	351+65.89 - 354+47.48	BRDG APP TRT		1,495		[1]
WB TH10/47	327+36.31 - 338+68.79	ACCEL LANE	462	1,335	103	
	338+68.79 - 370+25.18	SHOULDER	304			
	351+81.93 - 354+63.39	SHLD. UNDER BRIDGE	256	354		
	351+86.93 - 354+58.43	WALK UNDER BRIDGE	31			
	370+25.18 - 376+46.84	DECEL LANE	671	824		
	351+88.93 - 354+56.43	BRDG APP TRT		1,415		[1]
DAHLIA PARK				100		
INTERCHANGE - S.P. 0215-59, 114-010-14 SUBTOTAL			**11,846**	**23,929**	**620**	
CSAH - S.P. 02-611-29, 114-020-28						
HANSON BLVD	3+99 - 7+53.09	RT	498	817		
	3+91 - 7+53.09	LT	491	803		
	3+99 - 7+53.09	SIDEWALK RT	29			
	3+99 - 7+53.09	SIDEWALK LT	30			
	3+99 - 7+53.09	MEDIAN	68			
	3+99 - 7+53.09	DRIVEWAYS	10			
	7+53.09 - 11+87.46	RT	737	1,204		
	7+53.09 - 11+87.46	LT	866	1,407		
	7+53.09 - 11+87.46	SIDEWALK RT	49			
	7+53.09 - 11+87.46	SIDEWALK LT	54			
	7+53.09 - 11+87.46	MEDIAN	85			
	7+53.09 - 11+87.46	DRIVEWAYS				
HANSON BLVD	16+90.98 - 23+92.35	RT	1,112	2,643		
	16+90.98 - 23+92.35	LT	1,337	3,141		
	16+90.98 - 23+92.35	SIDEWALK RT	81			
	16+90.98 - 23+92.35	SIDEWALK LT	92			
	16+90.98 - 23+92.35	MEDIAN	162			
	16+90.98 - 23+92.35	DRIVEWAYS				

AGGREGATE AND SELECT GRANULAR SUMMARY — J

ROADWAY	STATION TO STATION	OFFSET	2211 AGGREGATE BASE CL 5 CU YD	2105 SELECT GRANULAR BORROW (CV) CU YD	2221 AGGREGATE SHOULDERING CL 2 MOD. TON	NOTES
NORTHDALE BLVD	0+82 - 5+80	RT	457	770		
	0+82 - 5+80	LT	570	951		
	0+82 - 5+80	MEDIAN	79			
	0+82 - 5+80	DRIVEWAYS	34			
	0+82 - 5+80	SIDEWALK	25			
	5+80 - 16+00	RT	977	1,779	66	
	5+80 - 16+00	LT	968	1,768	49	
	5+80 - 16+00	MEDIAN				
	5+80 - 16+00	DRIVEWAYS	57			
	5+80 - 16+00	SIDEWALK				
	16+00 - 19+75	RT	115			
	0+70 - 19+84.52	RT	787	1,693		TEMP PAVEMENT
	11+30 - 19+80	LT	156	356		TEMP PAVEMENT
CSAH - S.P. 02-611-29, 114-020-28 SUBTOTAL			**9,926**	**17,332**	**115**	
CSAH - S.P. 02-678-17, 114-020-28						
HANSON BLVD	23+92.35 - 32+94.22	RT	1,126	2,709		
	23+92.35 - 32+94.22	LT	1,432	3,404		
	23+92.35 - 32+94.22	SIDEWALK RT	62			
	23+92.35 - 32+94.22	SIDEWALK LT	73			
	23+92.35 - 32+94.22	MEDIAN	160			
	23+92.35 - 32+94.22	DRIVEWAYS	52			
CSAH - S.P. 02-678-17, 114-020-28 SUBTOTAL			**2,905**	**6,113**	**0**	
PROJECT TOTALS:			**24,677**	**47,374**	**735**	

NOTES:
[1] FROM EARTHWORK QUANTITIES TABULATION.

FENCE — M

ALIGNMENT	STATION TO STATION	OFFSET	2557 WIRE FENCE DESIGN 60-9322 LIN FT	2557 METAL BRACE ASSEMBLY EACH	2557 ELECTRICAL GROUND EACH	NOTES
INTERCHANGE - SP 0215-59, 114-010-14						
TH10/47 EB	335+00 - 338+44	RT	344	1	1	
RAMP C-1	438+45 - 448+79	RT	1038	1	1	
RAMP B-2	263+76 - 266+94	LT	318	1	1	
RAMP D	558+69 - 570+60	RT	1200	2	1	
INTERCHANGE - SP 0215-59, 114-010-14 TOTALS			**2900**	**5**	**4**	

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TAB-7
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 27 / 681

PLOT DATE: 8 , 2007 11:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ER...-TAB-7.dwg

Xref'd Drawings
REF--DWG--BDR
22x34bdr

BITUMINOUS SUMMARY — K

ROADWAY / STATION TO STATION	OFFSET	2360 TYPE SP 12.5 WEAR (SPWEB440F) TON	2360 TYPE SP 12.5 NON-WEAR (SPNWB430C) TON	2360 TYPE SP 12.5 WEAR (SPWEB340F) TON	2557 BIT. TACK COAT GAL	NOTES
INTERCHANGE - S.P. 0215-59, 114-010-14						
HANSON BLVD						
11+87.46 - 16+90.98	LT	367	281		153	
11+87.46 - 16+90.98	RT	382	292		159	
RAMP A						
138+68.91 - 151+73	LT/RT	1,213	683		545	[1]
RAMP A ACCELERATION LANE		546	289		227	
RAMP B						
254+80 - 270+23.79	LT/RT	1,519	1,162		633	
RAMP B DECELERATION LANE		382	292		159	
RAMP C						
438+45.47 - 451+54.31	LT/RT	1,443	800		635	[1]
RAMP C DECELERATION LANE		379	201		158	
RAMP D						
554+68 - 578+04.92	LT/RT	1,691	1,293		704	
RAMP D ACCELERATION LANE		764	584		318	
EB TH10/47						
338+44.1 - 344+62.3	RT	161	123		67	
351+58.89 - 354+54.48	RT	189			37	
360+40.7 - 373+87.1	RT	342	261		142	
WB TH10/47						
338+68.8- 345+94.5	LT	185	141		77	
351+81.93 - 354+63.39	LT	160			35	
361+59.7 - 370+25.2	LT	212	162		88	
INTERCHANGE - S.P. 0215-59, 114-010-14 SUBTOTAL		**9,955**	**6,564**	**0**	**4,139**	
CSAH - S.P. 02-611-29, 114-020-28						
HANSON BLVD						
3+91 - 7+53.09	LT	421	322		175	
3+91 - 7+53.09	RT	427	326		178	
7+53.09 - 11+87.46	LT	709	542		295	
7+53.09 - 11+87.46	RT	667	510		278	
HANSON BLVD						
16+90.98 - 23+92.35	LT	1,184	905		493	
16+90.98 - 23+92.35	RT	1,118	855		466	

BITUMINOUS SUMMARY — K

ROADWAY / STATION TO STATION	OFFSET	2360 TYPE SP 12.5 WEAR (SPWEB440F) TON	2360 TYPE SP 12.5 NON-WEAR (SPNWB430C) TON	2360 TYPE SP 12.5 WEAR (SPWEB340F) TON	2557 BIT. TACK COAT GAL	NOTES
N. NORTHDALE BLVD						
0+82 - 5+80	LT	427	326		178	
0+82 - 5+80	RT	362	277		151	
2+59	LT 45'			13	2	
2+71	RT 50'			4	1	
5+80 - 16+00	LT	832	636		346	
5+80 - 16+00	RT	841	643		350	
16+00 - 19+75	RT	95	73		40	
TEMP. BYPASS 1						
0+72 - 19+75	RT	523	988		206	
TEMP. BYPASS 2						
11+30 - 19+75	LT	94	178		40	
CORNER PLAZA PARKING LOT				5		
CSAH - S.P. 02-611-29, 114-020-28 SUBTOTAL		**7,699**	**6,583**	**22**	**3,198**	
CSAH - S.P. 02-678-17, 114-020-28						
HANSON BLVD						
23+92.35 - 34+43.32	LT	1,232	942		513	
23+92.35 - 34+43.32	RT	943	721		393	
26+67	RT 63'			26	4	
30+64	RT 42'			10	2	
CSAH - S.P. 02-678-17, 114-020-28 SUBTOTAL		**2,175**	**1,663**	**36**	**911**	
PROJECT TOTALS:		**19,829**	**14,810**	**58**	**8,248**	

NOTES:
(1) INCLUDES AN ADDITIONAL INCH OVER MOMENT SLAB (7" TOTAL)

GENERAL NOTES:
- TOP LIFT THICKNESS WAS INCREASED BY 0.25 INCHES
- BOTTOM LIFT THICKNESS WAS INCREASED BY 0.25 INCHES
- ITEM (TYPE SP 12.5 BITUMINOUS MIXTURE FOR PATCHING) IS NOT INCLUDED IN TAB, BUT IS TO BE USED AS DIRECTED BY THE ENGINEER. APPLICATIONS MAY INCLUDE, BUT ARE NOT LIMITED TO: RAMPING BY CB'S FOR PLOWING PURPOSES, RAMPING AT NEW TO OLD PAVEMENT INTERFACES FOR CONSTRUCTION STAGING PURPOSES

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TAB-8
DATE: NOVEMBER 10, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 28 / 681

PLOT DATE: Jan 8, 2007 11:16am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ER-TAB-8.dwg

Xref'd Drawings
REF-DWG-BDR
22x34bdr

CONCRETE CURB AND GUTTER, WALK, DRIVEWAY, AND NOSES

L

ROADWAY / STATION TO STATION	OFFSET	2521 4" CONCRETE WALK SQ FT	2521 4" CONCRETE WALK SPECIAL 1 SQ FT	2521 6" CONCRETE WALK SQ FT	2531 CURB AND GUTTER DESIGN B424 LIN FT	B612 LIN FT	B612 (MOD) LIN FT	B618 LIN FT	B618 (MOD) LIN FT	B624 LIN FT	B624 (MOD) LIN FT	D424 LIN FT	2531 8" CONCRETE DRIVEWAY PAVEMENT SQ YD
INTERCHANGE - S.P. 0215-59, 114-010-14													
HANSON / TH10 INTERCHANGE													
11+87 - 13+21	MEDIAN		622								268		
11+87 - 13+21	LT	367	844								139		
11+87 - 13+21	RT	422	647								133		
15+54 - 16+91	MEDIAN		639								274		
15+54 - 16+91	LT	346	730								135		
15+54 - 16+91	RT	321	808								125		
RAMP A													
138+68.91 - 153+00	ISLAND	336	953	29							146		
641+00 - 652+42	LT				1,120								
138+69 - 146+01	RT			332								732	
RAMP B													
254+60 - 255+70	ISLAND	393	1,273	22							204		
257+97 - 270+24	RT			67								882	
254+05 - 266+00	LT				1,202								
RAMP C													
451+20 - 452+00	ISLAND	255	1,157	25							165		
438+45 - 446+48	LT			67								804	
851+94 - 852+28	RT									29			
RAMP D													
554+67 - 554+95	ISLAND	267	923	18							130		
561+90 - 573+87	LT			246								1,200	
560+47 - 570-72	RT											1,025	
954+10 - 955+62	RT									143			
EB TH10/47													
338+44 - 3339+50	RT			67	106								
351+64 - 354+50	RT	2665			286								
370+00 - 373+87	RT				387								
WB TH10/47													
338+69 - 339+70	LT				101								
351+87 - 354+58	LT	2533			268								
367+50 - 370+25	LT				275								
INTERCHANGE - S.P. 0215-59, 114-010-14 SUBTOTAL		**7905**	**8,596**	**873**	**3,745**	**0**	**0**	**0**	**0**	**172**	**1,719**	**4,643**	**0**
CSAH - S.P. 02-611-29, 114-020-28													
HANSON BLVD													
3+31 - 7+30	MEDIAN	4631		20			605						
3+91 - 7+53.09	LT	2078						393					49
3+42 - 7+30	RT	1960						354					
2+50 - 7+70	RT	342		23					75				
7+58 - 7+68	LT	236		27					110				
7+53.09 - 11+87.46	ISLAND		276	63							110		
8+23 - 11+87	MEDIAN		1,705	28							744		
8+00 - 11+87	LT	2387	1,849								419		
7+95 - 11+87	RT	2258	1,772								422		

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TAB-9
DATE: NOVEMBER 10, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
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TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 29 / 681

PLOT DATE: 2007 11:16am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-EI
2-TAB-9.dwg

Xref'd Drawings
REF-DWG-BDR
22x34bdr

CONCRETE CURB AND GUTTER, WALK, DRIVEWAY, AND NOSES — L

ROADWAY / STATION TO STATION	OFFSET	2521 4" CONCRETE WALK SQ FT	2521 4" CONCRETE WALK SPECIAL 1 SQ FT	2521 6" CONCRETE WALK SQ FT	2531 CURB AND GUTTER DESIGN B424 LIN FT	B612 LIN FT	B612 (MOD) LIN FT	B618 LIN FT	B618 (MOD) LIN FT	B624 LIN FT	B624 (MOD) LIN FT	D424 LIN FT	2531 8" CONCRETE DRIVEWAY PAVEMENT SQ YD
HANSON BLVD													
16+91 - 23+29	MEDIAN		2,897	28							1,260		
16+91 - 23+92	LT	3667	3,296							38	675		
16+91 - 23+92	RT	3646	3,242								651		
N. NORTHDALE BLVD.													
0+86 - 5+57	MEDIAN	2936		28							938		
0+86 - 7+50	LT	1469								550			45
1+27 - 5+65	RT									509			42
5+80 - 15+33.92	MEDIAN			18									
5+80 - 15+33.92	LT												
5+80 - 15+33.92	RT												
CORNER PLAZA PARKING LOT		944				207							
CSAH - S.P. 02-611-29, 114-020-28 SUBTOTAL		**26554**	**15,037**	**235**	**0**	**207**	**605**	**747**	**185**	**1,097**	**5,219**	**0**	**136**
CSAH - S.P. 02-678-17, 114-020-28													
HANSON BLVD													
23+92 - 32+94	MEDIAN	6406		106							1,132		
23+92 - 32+94	LT	4426								872			
23+92 - 32+94	RT	5161				76				887	74		110
CSAH - S.P. 02-678-17, 114-020-28 SUBTOTAL		**15993**	**0**	**106**	**0**	**76**	**0**	**0**	**0**	**1759**	**1206**	**0**	**110**
PROJECT TOTALS		**50452**	**23633**	**1214**	**3745**	**283**	**605**	**747**	**185**	**3028**	**8144**	**4643**	**246**

TRAFFIC BARRIER — N

ROADWAY	STATION TO STATION	OFFSET	2554 DESIGN B8338 LIN FT	2554 SPECIAL DESIGN LIN FT	2554 DESIGN BULLNOSE LIN FT	2554 ANCHORAGE ASSEMBLY PLATE BEAM [2] EACH	2554 END TREATMENT TANGENT TERMINAL [3] EACH	2564 SNOWPLOW MARKER X4-5 [4] EACH	NOTES
INTERCHANGE - S.P. 0215-59, 114-010-14									
RAMP A	141+00 - 651+97	LT	1047			1	1	1	
RAMP B	258+50 - 265+00	LT	612			1	1	1	
	257+97 - 258+60	RT		25			1	1	[1]
RAMP C	445+85 - 446+48	LT		25			1	1	[1]
EB TH10/47	351+66 - 352+13	LT			100				
	325+13 - 354+23	LT	420						
	354+23 - 354-70	LT			100				
PROJECT TOTALS:			**2079**	**50**	**200**	**2**	**4**	**4**	

NOTES:
[1] ATTACHMENT TO TYPE F RAILING AND ANCHORAGE PLATE 8318, INCIDENTAL
[2] FES (STANDARD PLATE 8338B)
[3] SKT-350 OR ET-2000
[4] FOR INFORMATION ONLY (INCIDENTAL)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TAB-10
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 30 / 681

PLOT DATE: Jan 2007 11:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTI TAB-10.dwg

Xref'd Drawings
REF-DWG-BD
22x34bdr

EROSION CONTROL

O

ROADWAY / STATION TO STATION	OFFSET	2573 SILT FENCE TYPE MACHINE SLICED LF	2573 SILT FENCE TYPE HEAVY DUTY LF	2573 FILTER LOG TYPE STRAW BIOROLL LF	2573 CULVERT PROTECTION EACH	2573 STORM DRAIN INLET PROTECTION EACH	2575 SODDING TYPE EROSION SY	NOTES
INTERCHANGE - S.P. 0215-59, 114-010-14								
RAMP A/ACCEL LANE								
127+00 - 153+00	LT	1,932	560	92	8	8	20	
RAMP A (RT)/ TH10/47 WB (LT)								
339+70 - 351+89				27	1		15	
POND A								
CONTOUR 857		1,102						
RAMP B/DECEL LANE								
254+00 - 276+46	LT	1,125	430	45	8	5	18	
254+98 (CULVERT UNDER HNSN TO POND A)	LT				2		19	
RAMP B (RT)/ TH10/47 WB (LT)								
354+56 - 370+18				56	2	2	30	
RAMP C/DECEL LANE								
432+29 - 452+25	RT	470	480	75	9	6	130	
RAMP C (LT)/ TH10/47 EB (RT)								
338+51-351+65.89				15	3		33	
POND C								
CONTOUR 859		865						
RAMP D/ACCEL LANE								
554+00 - 590+00	RT	242	200	90	7	5	54	
555+18 (POND D OUTLET STRUCTURE)							34	
RAMP D (LT)/ TH10/47 EB (RT)								
354+47 - 392+23				41	2	2	45	
POND D								
CONTOUR 860		661						
TH10/47								
341+65 - 342+40	MEDIAN				2		20	
349+55 - 351+05	MEDIAN					1		
351+05 - 355+30	MEDIAN				1	1		
355+30 - 357+00	MEDIAN							
INTERCHANGE - S.P. 0215-59, 114-010-14 SUBTOTAL		**6,397**	**1,670**	**441**	**45**	**30**	**418**	
CSAH - S.P. 02-611-29, 114-020-28								
HANSON BLVD SOUTH								
3+91 - 7+53	LT	216				9		
3+99 - 7+53	RT	320				5		
7+53 - 11+87	LT				3	8		
7+53 - 11+87	RT	332				7		
HANSON BLVD NORTH								
16+91 - 23+92	LT	985			2	11	9	
16+91 - 23+92	RT	509				6		
N. NORTHDALE BLVD								
0+00 - 5+80	LT	140	180			3		
0+00 - 5+80	RT	320				4		
5+80 - 17+20	LT	658	730	21		4	59	
5+80 - 17+20	RT	607	800	11	7	1	91	
CSAH - S.P. 02-611-29, 114-020-28 SUBTOTAL		**4,087**	**1,710**	**32**	**12**	**58**	**159**	
CSAH - S.P. 02-678-17, 114-020-28								
HANSON BLVD NORTH								
23+92.35 - 32+94	LT	1,273	60			13		
23+92 - 34+38	RT	530	390			9		
CSAH - S.P. 02-678-17, 114-020-28 SUBTOTAL		**1,803**	**450**	**0**	**0**	**22**	**0**	
PROJECT TOTALS =		**12,287**	**3,830**	**473**	**57**	**110**	**577**	

NOTES: 1) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR 1/3 OF SILT FENCE HEIGHT.
2) QUANTITIES SHOWN IN TABULATION O ARE FOR DEVICES SHOWN ON EROSION CONTROL PLAN SHEETS 255 TO 263.
ADDITIONAL TEMPORARY EROSION CONTROL DEVICES/MEASURES DEPICTED ON STAGING PLANS ARE NOT INCLUDED IN TABULATION O.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TAB-11
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 31 / 681

PLOT DATE: Jan 07 11:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ERTH TAB-11.dwg

Xref'd Drawings
REF-DWG-BDR
22x34bdr

TURF ESTABLISHMENT

P

ROADWAY / STATION TO STATION	OFFSET	2575 SEEDING ACRE	2575 SODDING TYPE SALT RESISTANT SQ YD	2575 MULCH MATERIAL TYPE 3 TON	2575 DISK ANCHORING ACRE	2575 FERTILIZER TYPE 3 POUND	2575 EROSION CONTROL BLANKETS CATEGORY 3 SQ YD	2575 SEED MIXTURE 350 POUND	2575 SEED MIXTURE 310 POUND	2575 SEED MIXTURE SPECIAL POUND	2357 BIT. MATERIAL FOR SHOULDER TACK POUND	2575 SEED MIXTURE 100 [1] POUND	2575 SEED MIXTURE 110 [1] POUND	2575 MULCH MATERIAL TYPE 1 [1] TON	NOTES
INTERCHANGE - S.P. 0215-59, 114-010-14															
RAMP A															
138+69 - 153+00	LT	3.6	500	7.2	3.6	270	2,562	152	148		20				
RAMP B															
254+00 - 270+24	LT	2.6	540	5.2	2.6	375		211	8		10				
RAMP C															
438+45 - 452+25	RT	4.8	40	9.6	4.8	435	3,020	245	156		19				
RAMP D															
553+50 - 573+89	RT	3.2	660	6.4	3.2	375	2,432	211	57		14				
TH 10/47															
335+70 - 338+69	MEDIAN	0.3		0.6	0.3	45		25			8				
338+69 - 351+05	MEDIAN	1.2		2.4	1.2	180		101			34				
355+30 - 372+40	MEDIAN	1.5		3.0	1.5	225		127			47				
355+30 - 356+80	MEDIAN	0.1		0.2	0.1	15		8			4				
TH 10/47 WB															
327+36 - 338+69	LT	0.7		1.4	0.7	45		25	33		16				
339+69 - 351+89	LT	1.1	280	2.2	1.1	165		93			17				
354+56 - 370+18	LT	1.8	660	3.6	1.8	270		152			18				
370+18 - 376+50	LT	0.5		1.0	0.5	60		34	8		9				
TH 10/47 EB															
332+24 - 338+44	RT	1.0		2.0	1.0	75		42	41		9				
338+51 - 351+66	RT	1.3	400	2.6	1.3	195		110			17				
354+47 - 372+87	RT	1.5	730	3.0	1.5	225		127			21				
373+87 - 392+23	RT	1.9		3.8	1.9	120		68	90		25				
RAMP ISLANDS	RT - LT	0.1		0.2	0.1	15				10					
TEMPORARY SEEDING		5.4			5.4							270	270	10.8	
INTERCHANGE - S.P. 0215-59, 114-010-14 SUBTOTAL		**32.6**	**3,810**	**54.4**	**32.6**	**3,090**	**8,014**	**1,732**	**541**	**10**	**288**	**270**	**270**	**10.8**	
CSAH - S.P. 02-611-29, 114-020-28															
HANSON BLVD															
3+91 - 7+53	LT		840												
3+99 - 7+53	RT		750												
7+53 - 11+87	LT	0.2	240	0.4	0.2	30		17							
7+53 - 11+87	RT	0.1	810	0.2	0.1	15		8							
16+91 - 23+92	LT	1.1	360	2.2	1.1	120		68	25						
16+91 - 23+92	RT	0.3	240	0.6	0.3	45		25							
N. NORTHDALE BLVD															
0+00 - 19+75	LT	1.2	870	2.4	1.2				98		17				
0+00 - 19+75	RT	1.5	950	3.0	1.5				123		21				
TEMPORARY SEEDING		0.5			0.5							25	25	1.0	
CSAH - S.P. 02-611-29, 114-020-28 SUBTOTAL		**4.9**	**5,060**	**8.8**	**4.9**	**210**	**0**	**118**	**246**	**0**	**38**	**25**	**25**	**1.0**	
CSAH - S.P. 02-678-17, 114-020-28															
HANSON BLVD															
23+92 - 32+94	LT	0.5	900	1.0	0.5	45		25	16						
23+92 - 34+34	RT		2,480					12							
TEMPORARY SEEDING		0.5			0.5							25	25	1.0	
CSAH - S.P. 02-678-17, 114-020-28 SUBTOTAL		**1.0**	**3380**	**1.0**	**1.0**	**45**	**0**	**37**	**16**	**0**	**0**	**25**	**25**	**1.0**	
PROJECT TOTALS:		**38.4**	**12,250**	**64.2**	**38.4**	**3345**	**8,014**	**1,888**	**804**	**10**	**326**	**320**	**320**	**12.8**	

NOTES: [1] TEMPORARY

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
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DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl L. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD
INTERCHANGE
TABULATIONS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 32
681

PLOT DATE: , 2007 11:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ER 2-TAB-12.dwg

XrefG Drawings
REF-DWG-BDR
22x34bdr

WATERMAIN

S

ROADWAY	STATION	OFFSET	2504 CONNECT TO EXISTING EACH	2504 INSTALL HYDRANT & VALVE EACH	2504 HYD. EACH	2504 4" POLY-STYRENE INSULATION SQ. YD.	2104 SALVAGE HYDRANT & VALVE EACH	2104 SALVAGE HYDRANT EACH	2104 REMOVE WM LIN FT	2504 24" DIP BALL JOINT CL52 (2) LIN FT	2504 24" DIP CL52 LIN FT	2504 12" DIP CL52 LIN FT	2504 10" DIP CL52 LIN FT	2504 8" DIP CL52 LIN FT	2504 6" DIP CL52 LIN FT	2504 1.5" COPPER PIPE LIN FT	2504 6" GV & BOX EACH	2504 24" BUTTERFLY VALVE EACH	2504 24" SLEEVE EACH	2504 RECONNECT WATER SERVICE 1.5" EACH	2504 1.5" CORP--ORATION STOP EACH	2504 1.5" CURB STOP & BOX EACH	2504 8"x6" TEE FITTING EACH	2504 10"x12" TEE FITTING EACH	2504 12" PIPE BEND 90 DEG EACH	2504 12" DIP PLUG EACH	2504 10" DIP PLUG EACH	2504 8" DIP PLUG EACH	2504 ADJUST VALVE BOX EACH	ADJUST VALVE BOX EXIST. ELEV	ADJUST VALVE BOX PROP. ELEV	2504 VALVE OPERATOR EXTENSION EACH
S.P. 02-611-29, 114-020-28																																
HANSON BLVD. BASELINE																																
	6+36.73	52.66 LT																												1	868.50	867.84	
	6+78.00	48.0 - 60.8 LT	1	1			1								10																	
	7+37.08	53.58 LT																												1	867.73	867.64	
	7+41.43	47.47 RT																												1	867.94	867.82	
	20+00.06	18.55 RT																												1	868.56	871.85	1 (1)
NORTHDALE BLVD. CENTERLINE																																
	4+46.80	263.22 RT	1								5							1	1													
	20+00.00	24.55 LT	1								5							1	1													
S.P. 02-611-29, 114-020-28 SUBTOTAL			3	1	0	0	1	0	0	0	10	0	0	0	10	0	0	2	2	0	0	0	0	0	0	0	0	0	4			1
S.P. 02-678-17, 114-020-28																																
HANSON BLVD. BASELINE																																
	23+21.45	98.18 LT																									1					
	23+21.45-24+55.09	98.18 - 56.00 LT	1			7						162																1				
	23+98.39	123.81 LT																								1						
	24+53.70	85.24 LT											33											1						1	857.90	858.08	
	23+94.22-23+98.39	91.06 - 123.81 LT												31		20				1	1	1	1						1			
	24+58.35	12.26 RT																												1	857.68	857.52	
	24+91.45	38 - 69 RT	1												5		1															
	24+91.51	22.75 RT			1															2												
	24+96.30	68.02 RT						1	13																							
	25+04.45	38.04 RT							175	179																						
	32+12.10-33+88.40	36.47 - 55.53 RT	2			320				5								1	1													
	34+45	44.43 RT	1																													
S.P. 02-678-17, 114-020-28 SUBTOTAL			5	0	1	327	0	1	188	184	0	162	33	31	5	20	1	1	3	1	1	1	1	1	1	1	1	1	2			0
S.P. 0215-59, 114-010-14																																
RAMP D	571+25-572+00	48.0 - 28.0 RT				67																										
S.P. 0215-59, 114-010-14 SUBTOTAL			0	0	0	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0
PROJECT TOTAL =			8	1	1	394	1	1	188	184	10	162	33	31	15	20	1	3	5	1	1	1	1	1	1	1	1	1	6			1

NOTES:
(1) INCLUDES ADJUSTING VALVE BOX TO PROPOSED GRADE.
(2) 4" URETHANE INSULATION WRAP AND VAPOR BARRIER IS INCIDENTAL

SANITARY SEWER

T

	STATION	OFFSET	2506 ADJUST FRAME & CASTING EACH	2506 ADJUST FRAME & RING CASTING EXISTNG ELEV	2506 ADJUST FRAME & RING CASTING PROP ELEV	2506 RECONSTRUCT DRAINAGE STRUCTURES EXISTNG ELEV	2506 RECONSTRUCT DRAINAGE STRUCTURES PROP ELEV	2506 RECONSTRUCT DRAINAGE STRUCTURES RECONSTRUCT HT (LIN FT)	2506 INSTALL CASTING EACH	NOTES
S.P. 02-611-29, 114-020-28										
HANSON BLVD										
	5+15	CL	1	868.93	868.78					[6]
	7+49.01	55 RT	1	867.66	867.84					[6]
	7+50.22	30.44 LT				868.72	867.95	5	1	[3] [4] [5]
	7+50.46	25.98 LT	1	867.72	867.85					[6]
S.P. 02-611-29, 114-020-28 TOTAL			3					5	1	
PROJECT TOTAL =			3					5	1	

NOTES:
[3] INCLUDES 4 FT CONE SECTION.
[4] CASTING ASSEMBLY SHALL BE SALVAGED AND REUSED.
[5] HANSON BOULEVARD NB ALIGNMENT
[6] HANSON BOULEVARD SB ALIGNMENT

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TAB-13
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 33 / 681

PLOT DATE: 8 2007 11:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ER

Xref'd Drawings
REF-DWG-BDR
22x34bdr

PRIVATE UTILITY OWNERS

R

COMCAST CABLE COMMUNICATIONS, INC.
CONTACT: DOUG ZAHN
TEL: (651) 493-5316

CITY OF COON RAPIDS
CONTACT: STEVE GATLIN
DIRECTOR OF PUBLIC WORKS
TEL: (763) 767-6458

CONNEXUS ENERGY
CONTACT: STEVE ZIMMERMAN
TEL: (763) 323-2766

CENTERPOINT ENERGY MINNESOTA GAS
CONTACT: STEVE GUHANICK
TEL: (612) 321-5421

MN/DOT-RTMC
CONTACT: SCOTT COOZENNOY
TEL: (651) 582-1473

QWEST CORPORATION
CONTACT: BILL BYERS
TEL: (763) 712-5902

MN/DOT ELECTRICAL SERVICES SECTION
CONTACT: MARLIN REINARDY
TEL: (612) 725-2309

GREAT RIVER ENERGY
CONTACT: CRAIG POORKER
TEL: (612) 241-2367

GENERAL NOTES:

RELOCATION OF MN/DOT FACILITIES WILL BE COMPLETED AS PART OF THIS PROJECT. SEE THE TMC PLANS FOR MN/DOT TMC WORK.

THE REMARKS COLUMN IS BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATION WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

INPLACE TELEPHONE (QWEST CORPORATION)

R

STATION TO STATION	LOCATION	OFFSET FT	ITEM INPLACE	REMARKS (1)
HANSON BOULEVARD				
3+97 TO 6+79	RT	55	BURIED	LEAVE AS IS
4+00 TO 7+07	LT	54 TO 66	BURIED	LEAVE AS IS
6+16	LT	66	TELEPHONE BOX	LEAVE AS IS
6+79 TO 7+20	RT TO LT	55 RT TO 200+LT	BURIED	ADJUST/RELOCATE
6+79 TO 7+10	RT	55 TO 200+	BURIED	ADJUST/RELOCATE
6+64 TO 6+79	RT	55	BURIED	LEAVE AS IS
6+73	RT	55	TELEPHONE MH	ADJUST RIM
6+73 TO 9+98	RT	55 TO 78	BURIED	LEAVE AS IS
6+79	RT	55	TELEPHONE MH	ADJUST RIM
6+79 TO 10+06	RT	55 TO 65	BURIED	LEAVE AS IS
10+06	RT	50	VAULT	ADJUST RIM
10+06 TO 18+62	RT	47 TO 59	1-6WAY & 1-9WAY	LEAVE AS IS
18+62	RT	59	VAULT MH	ADJUST RIM
18+62 TO 20+00	RT	59 TO JAY ST.	9-WAY EAST	LEAVE AS IS
18+62 TO 23+33	RT	50 TO 59	6-WAY NORTH	LEAVE AS IS
19+17	RT	67	TELEPHONE BOX	ADJUST/RELOCATE
23+53	RT	30	VAULT	RELOCATE
23+53 TO 27+50	RT	32 TO 15	6-WAY	ADJUST/RELOCATE
23+53 TO 27+50	RT	32 TO 40	3-WAY	LEAVE AS IS
24+29 TO 29+66	RT	71 TO 65	BURIED	LEAVE AS IS
27+50	RT	15	VAULT	ADJUST/RELOCATE
27+50 TO 33+50	RT	15 TO 30	6-WAY, 6-WAY INTO 18-WAY	ADJUST/RELOCATE
29+66	RT	65	TELEPHONE MH	LEAVE AS IS
29+66 TO 31+79	RT	65 TO 32	BURIED	LEAVE AS IS
NORTH NORTHDALE BLVD				
0+40 TO 10+12	RT	32 TO 45	15 WAY	ADJUST/RELOCATE
0+70 TO 1+06	LT TO RT	37 TO 57	BURIED	LEAVE AS IS
1+06 TO 1+36	RT	57	BURIED	LEAVE AS IS
1+36	RT	57	TELEPHONE MH	LEAVE AS IS
1+36 TO 7+29	RT	49 TO 104	BURIED	LEAVE AS IS
2+82	LT	60	TELEPHONE BOX	LEAVE AS IS
2+82 TO 7+80	LT	36 TO 60	BURIED	ADJUST/RELOCATE
7+29	RT	54	TELEPHONE MH	LEAVE AS IS
7+33	RT	56	TELEPHONE VAULT	LEAVE AS IS
7+37	RT	58	TELEPHONE MH	LEAVE AS IS
7+39 TO 10+00	RT	51 TO 33	BURIED	LEAVE AS IS
7+80 TO 7+90	LT TO RT	35LT TO 78RT	BURIED	ADJUST/RELOCATE
JAY STREET TO 8+00	RT	55 TO 170	9-WAY	LEFT IN PLACE, OUT OF SERVICE
8+00	RT	57	TELEPHONE MH 115	LEFT IN PLACE, OUT OF SERVICE
8+06 TO 10+00	RT	57 TO 40	9-WAY	LEFT IN PLACE, OUT OF SERVICE
10+00	RT	40	TELEPHONE MH 7970	LEAVE AS IS
10+00 TO 21+45	RT	40 TO 45	9-WAY	LEFT IN PLACE, OUT OF SERVICE
10+00 TO 10+12	RT	38 TO 42	TELEPHONE VAULT	LEAVE AS IS
10+12	RT	33	TELEPHONE MH 7970	LEAVE AS IS
10+12 TO 21+45	RT	33 TO 41	15-WAY	LEFT IN PLACE, OUT OF SERVICE
10+12 TO 13+53	RT	33 TO 23	BURIED	LEAVE AS IS
13+53	RT	23	TELEPHONE MH	LEAVE AS IS
13+60	RT	29	TELEPHONE MH	LEAVE AS IS
13+53 TO 21+52	RT	23 TO 18	BURIED	LEAVE AS IS
14+86	RT	41	TELEPHONE MH 114	LEFT IN PLACE, OUT OF SERVICE
21+52	RT	38	TELEPHONE MH 7844	LEAVE AS IS
21+52	RT	41	TELEPHONE VAULT	LEAVE AS IS
21+82	RT	41	TELEPHONE MH 113	LEAVE AS IS

NOTES:
(1) ALL WORK INDICATED SHALL BE BY OTHERS UNLESS OTHERWISE NOTED.

PLOT DATE: J... 2007 11:15am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-ER... -INPUTLTAB1.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	12/28/06	REVISED PER Mn/DOT UTILITIES UNIT

DESIGN FILE: 33889--042
DRAWN BY: JCD | DESIGN BY: MSL
CHKED. BY: SAW | DWG. NAME: INPUTLTAB1
DATE: NOVEMBER 10, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

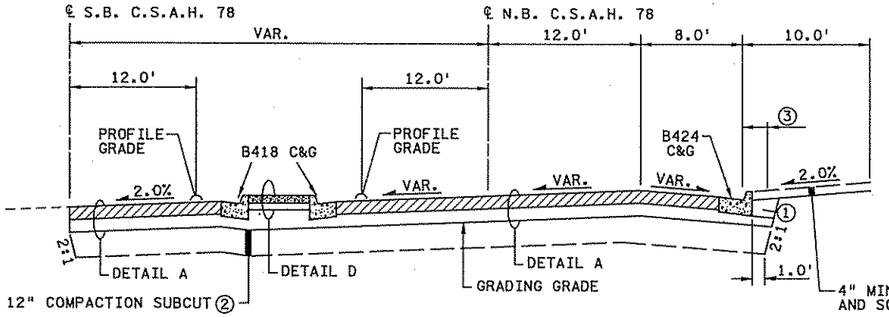
TABULATIONS

EXISTING UTILITIES

CITY PROJECT	01--31	S.P.	0215--59
S.P.	02--678--17	S.P.	02--611--29
		S.P.	114--020--28
		S.P.	114--010--14

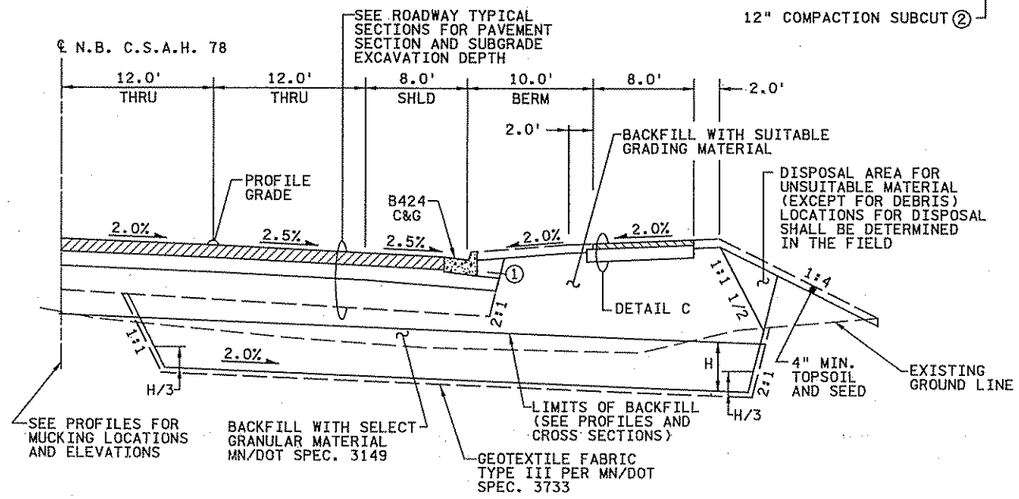
NOTES:

1. BACKFILL WITH SUITABLE GRADING MATERIAL.
2. MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.
3. 2.0' OBSTACLE FREE CLEAR ZONE.
4. SEE DETAILS FOR SUBGRADE DRAINAGE.
5. VARIABLE DEPTH MUCK EXCAVATION DEPTH MEASURED FROM SUBGRADE EXCAVATION AT THE PROFILE GRADE LOCATION.
6. "H" IS MEASURED AT TRAIL PI LOCATION.

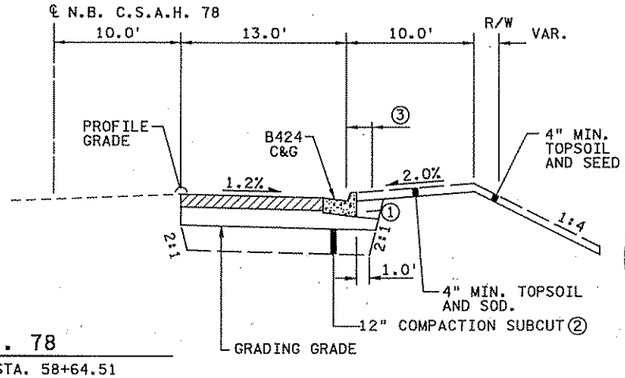


C.S.A.H. 78

STA. 61+99.62 TO STA. 62+12.83 (NO MEDIAN)
STA. 62+12.83 TO STA. 64+89.0

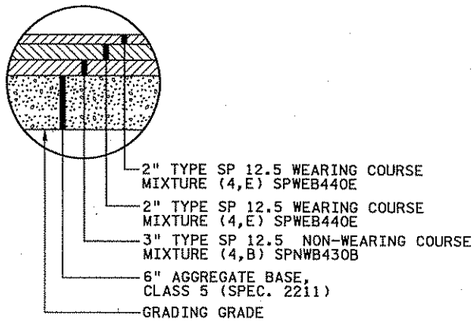


URBAN MUCK DETAIL

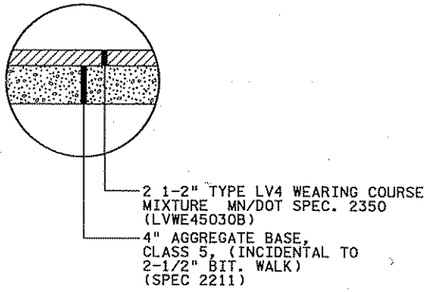


C.S.A.H. 78

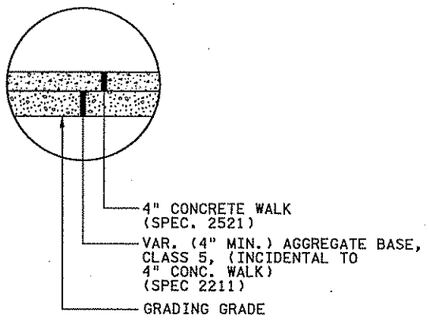
STA. 54+75.00 TO STA. 58+64.51



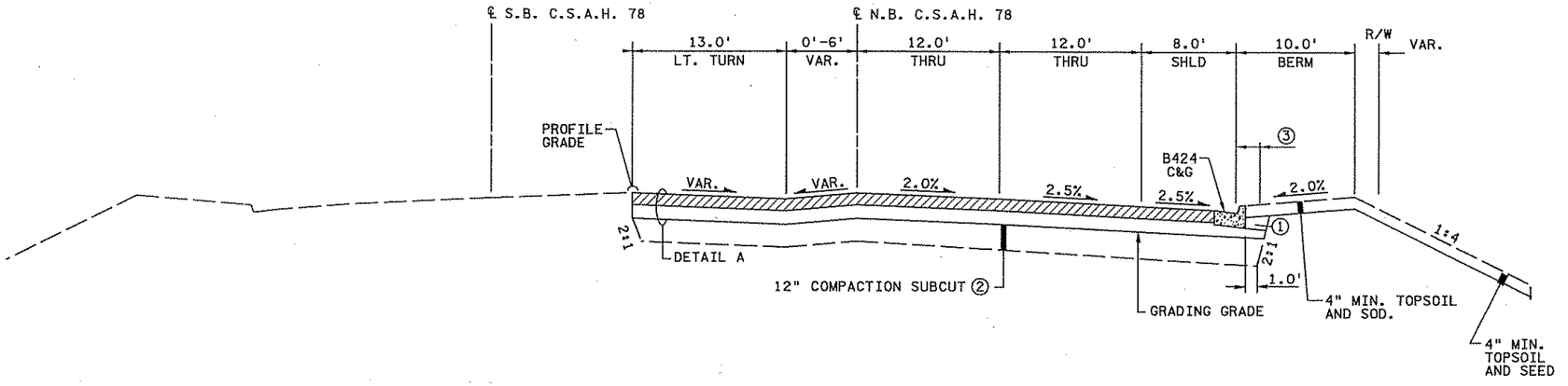
DETAIL A
C.S.A.H. 78



DETAIL C
BITUMINOUS WALK



DETAIL D
CONCRETE WALK



C.S.A.H. 78

STA. 58+64.51 TO STA. 61+99.62

NO	DATE	BY	CKD	APPR	REVISION
1	12/20/06	CMT	CMT	CMT	PAVEMENT DESIGN REVISION PER MN/DOT COMMENTS
					...\5404\hl-mu\Plan\5404.TSA

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/14/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

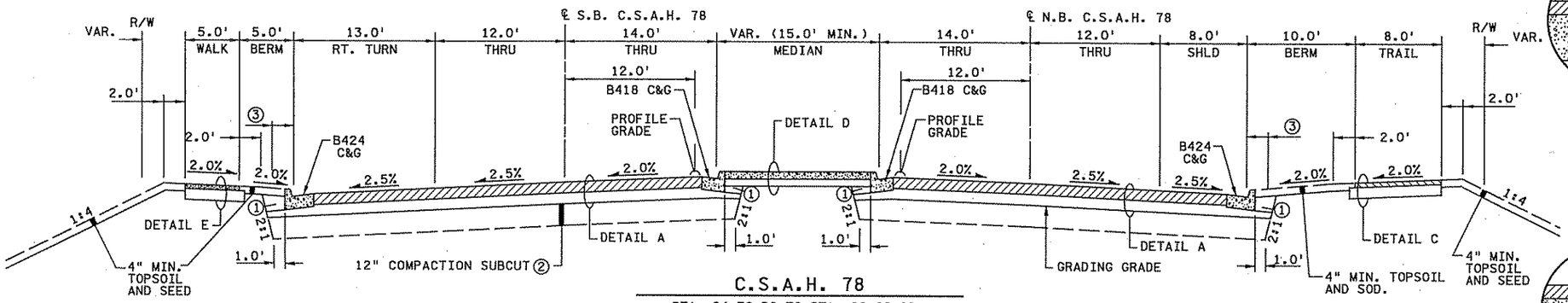
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TYPICAL SECTIONS
C.S.A.H. 78

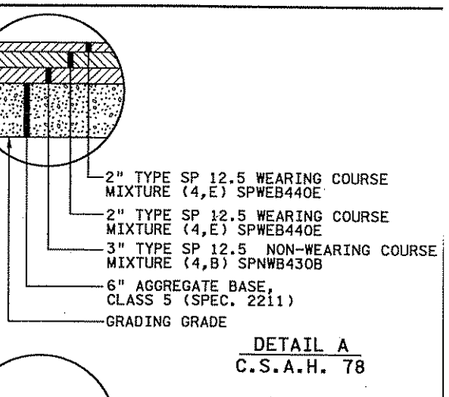
SHEET 33 OF 400

4:39:49 PM
6/14/2007
H:\Projects\5404\hl-mu\Plan\5404.TSA

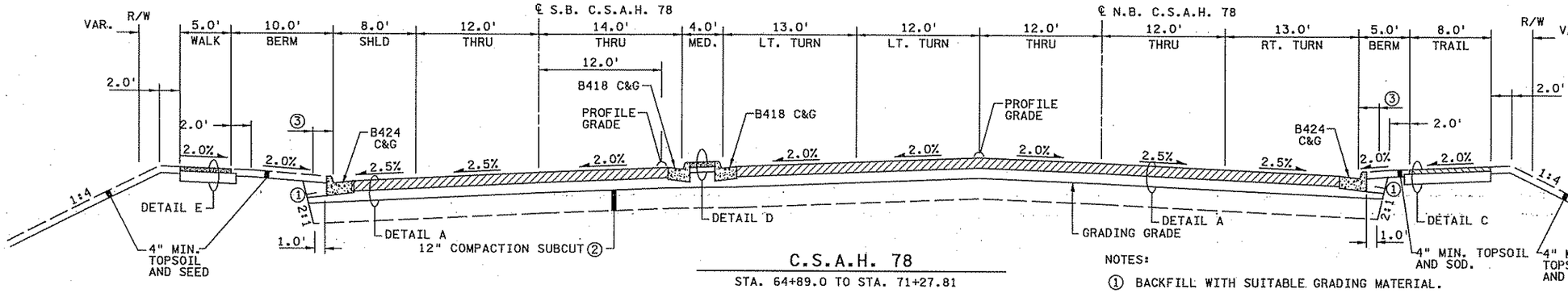


C.S.A.H. 78

STA. 84+76.30 TO STA. 89+66.06
STA. 103+74.71 TO STA. 108+16.11
STA. 141+08.56 TO STA. 143+80.00
STA. 158+14.35 TO STA. 158+67.47

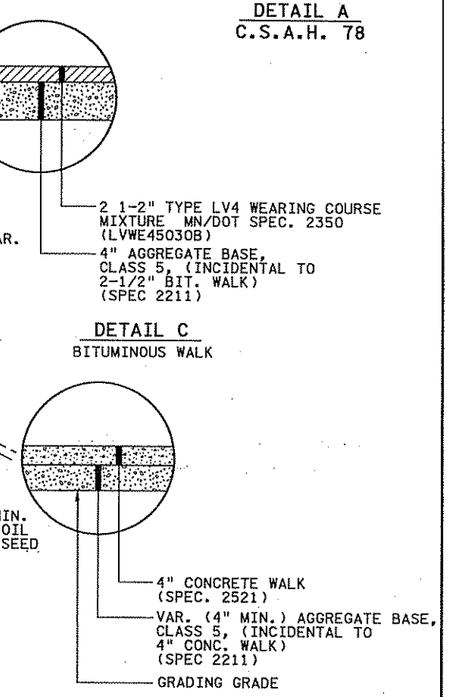


DETAIL A
C.S.A.H. 78



C.S.A.H. 78

STA. 64+89.0 TO STA. 71+27.81



DETAIL C
BITUMINOUS WALK

DETAIL D
CONCRETE WALK

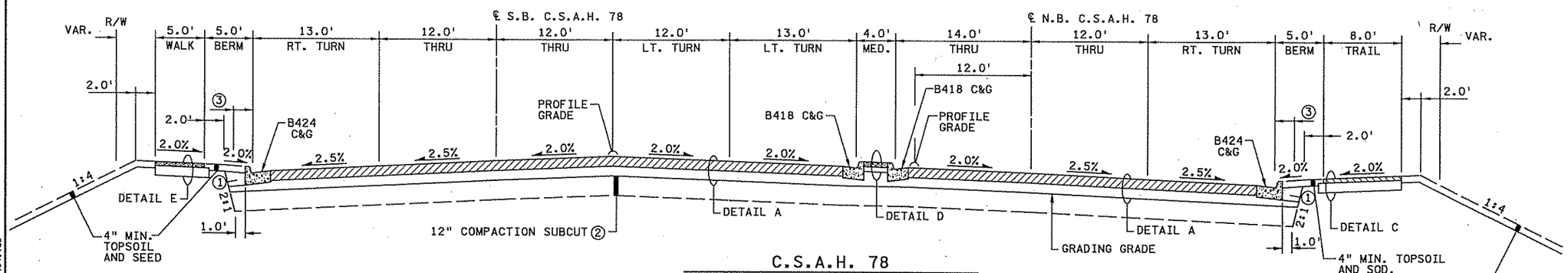
NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

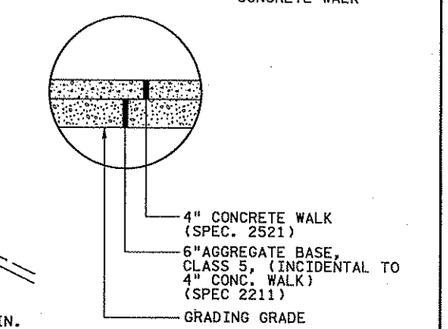
③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.



C.S.A.H. 78

STA. 73+16.22 TO STA. 80+44.30
STA. 152+63.74 TO STA. 158+14.35



DETAIL E
CONCRETE WALK

NO	DATE	BY	CKD	APPR	REVISION
1	12/20/06	CMT	CMT	CMT	PAVEMENT DESIGN REVISION PER MN/DOT COMMENTS
...\5404\hl-mu\plan\5404.TSD					

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: CHRIS M. TRBOYEVICH
Date 6/14/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TYPICAL SECTIONS
C.S.A.H. 78

SHEET 34 OF 400

4:39:50 PM
6/14/2007
N:\projects\5404\hl-mu\plan\5404.TSD

Xref'd Drawings
REF-DWG-BDR
22x34bdr

INPLACE GAS (CENTERPOINT ENERGY MINNESOTA GAS) — R

STATION TO STATION	LOCATION	OFFSET FT	ITEM INPLACE	REMARKS (1)
HANSON BLVD				
3+32 TO 3+51	LT-RT	66 TO 0	8" GAS	LEAVE AS IS
3+67	RT	47	VALVE	ADJUST
				LEAVE AS IS
HWY 10 EB				
369+98 TO 371+90	LT-RT	CROSSING	8" STL	LEAVE AS IS
HWY 10 WB				
372+30 TO 372+49	LT-RT	CROSSING	8" STL	LEAVE AS IS
RAMP B				
261+60 TO 263+38	LT	49 TO 46	2" PE	LEAVE AS IS
N. NORTHDALE BLVD				
0+67 TO 7+18	LT	55 TO 52	4" PE	LEAVE AS IS
7+18 TO 7+19	LT	52 TO 0	4" PE	LEAVE AS IS
7+19 TO 7+22	RT	0 TO 92	4" PE	LEAVE AS IS
7+22 TO 8+92	RT	92 TO 56	4" PE	LEAVE AS IS
8+92 TO 15+97	RT	56 TO 44	4" PE	LEAVE AS IS

NOTES:
(1) ALL WORK INDICATED SHALL BE BY OTHERS UNLESS OTHERWISE NOTED.

INPLACE POWER (CONNEXUS) — R

STATION TO STATION	LOCATION	OFFSET FT	ITEM INPLACE	REMARKS (1)
HANSON BOULEVARD				
3+80	LT	54	LIGHTING UNIT	LEAVE AS IS
5+05	LT	63	LIGHTING UNIT	LEAVE AS IS
5+39	RT	43	LIGHTING UNIT	LEAVE AS IS
5+74	LT	60	LIGHTING UNIT	LEAVE AS IS
6+80 TO 6+83	LT	46 TO 54	BURIED	LEAVE AS IS
6+83	LT	54	ELECTRIC BOX	LEAVE AS IS
8+06	LT-RT	CROSSING	BURIED	LEAVE AS IS
8+10 TO 10+47	LT-RT	75-90	BURIED	LEAVE AS IS
10+47 TO 33+50	LT	30-60	OH	RELOCATE
25+00 TO 26+30	CROSSING		BURIED	ADJUST/RELOCATE
26+30 TO 33+50	LT	30-50	BURIED	ADJUST/RELOCATE
27+40	CROSSING		BURIED	ADJUST/RELOCATE
NORTHDALE BOULEVARD				
0+50 TO 18+60	LT	55-20	BURIED	ADJUST/RELOCATE
7+00 TO 18+60	RT	100-60	OH	LEAVE AS IS

INPLACE CABLE (COMCAST CABLE COMMUNICATIONS INC.) — R

STATION TO STATION	LOCATION	OFFSET FT	ITEM INPLACE	REMARKS (1)
HANSON BOULEVARD				
3+46 TO 3+52	RT	37 TO 0	BURIED	LEAVE AS IS
3+52 TO 3+58	LT	0 TO 46	BURIED	LEAVE AS IS
3+58 TO 3+62	RT	48 TO 0	BURIED	LEAVE AS IS
3+62 TO 3+72	LT	0 TO 72	BURIED	LEAVE AS IS
3+70 TO 10+40	LT	60 TO 55	BURIED	ADJUST/RELOCATE
3+78 TO 3+81	LT	61 TO 72	BURIED	ADJUST/RELOCATE
3+81 TO 7+22	LT	72 TO 51	BURIED	ADJUST/RELOCATE
8+15 TO 8+20	LT	57' TO 200'+	BURIED	ADJUST/RELOCATE
10+67	LT	82	CABLE BOX	ADJUST/RELOCATE
18+45 TO 18+46	LT	CROSSING	BURIED	ADJUST/RELOCATE
18+46 TO 18+47	RT	CROSSING	BURIED	ADJUST/RELOCATE
10+45 TO 26+30	LT	59 TO 39	OH	ADJUST/RELOCATE
18+47 TO 18+76	RT	119 TO 173	BURIED	LEAVE AS IS
26+30 TO 33+50	LT	59 TO 39	BURIED	ADJUST/RELOCATE

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JCD | DESIGN BY: MSL
CHKED. BY: SAW | DWG. NAME: INPUTLTAB2
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS
EXISTING UTILITIES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 35 / 681

PLOT DATE: 2007 11:15am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\EST-QTY-TAB-E\2-INPUTLTAB2.dwg

Xref'd Drawings
REF-DWG-BDR
22x34bdr

INPLACE WATERMAIN (CITY OF COON RAPIDS) — R

STATION TO STATION	(2) LOCATION	(2) OFFSET	ITEM INPLACE	REMARKS
		FT		
TH 10				
370+00 TO 375+00	LT-RT	CROSSING	24" CLJP	LEAVE AS IS
HANSON BOULEVARD SB				
3+52	LT	27	GVMH	LEAVE AS IS
3+52 TO 7+40	LT	11-27	10" CIP	LEAVE AS IS
6+37	LT	54	VALVE BOX	
7+40	LT	11	TEE	LEAVE AS IS
6+79	LT	54	HYDRANT & VALVE	INSTALL 60' LT. (1)
6+79 TO 7+37	LT	42 - 44	6" DIP	LEAVE AS IS
7+37	LT	54	VALVE BOX	(1)
7+37 - 7+40	LT	CROSSING	10" WATERMAIN	LEAVE AS IS
7+40 - 7+41	RT	211	8" DIP	LEAVE AS IS
7+41	RT	50	VALVE BOX	(1)
7+47	RT	176	VALVE	LEAVE AS IS
7+41 - 8+00+/-	RT	176	SERVICE	LEAVE AS IS
19+98	RT	27	VALVE BOX	(1)
19+68 TO 32+12	RT	16-36	24" DIP	LEAVE AS IS
24+56	RT	9	VALVE BOX	(1)
24+56	LT	CROSSING	12" DIP STUB AND PLUG	EXTEND
24+99	RT	16-43	8" DIP STUB	EXTEND
25+05 (NB)	RT	9	HYD & VALVE, 6" PLUG	(1)
32+12 TO 33+88	RT	36-55	24" DIP	(1)
NORTHDALE BOULEVARD				
4+51 - 5+79 (117th Avenue)	RT	257 - 105	24" DIP	LEAVE AS IS
5+83 (Jay Street)	RT	111	VALVE	LEAVE AS IS
5+79 - 6+23 (Jay Street)	RT	105 - 183	8" DIP	LEAVE AS IS
5+86 (Jay Street)	RT	99	VALVE	LEAVE AS IS
5+86 - 10+00	LT-RT	CROSSING	24" DIP	LEAVE AS IS
10+00 - 16+00	LT	30 - 34	24" DIP	LEAVE AS IS

NOTES:
(1) INCLUDED IN PROJECT- SEE WATER MAIN TABULATION (S) FOR ADDITIONAL INFORMATION.
(2) BASED ON HANSON, NORTHDALE AND EB TH 10 CENTERLINE ALIGNMENTS.

INPLACE SANITARY SEWER (CITY OF COON RAPIDS) — R

STATION TO STATION	(2) LOCATION	(2) OFFSET	ITEM INPLACE	REMARKS
		FT		
HANSON BOULEVARD				
3+26	LT	21	MANHOLE	LEAVE AS IS
3+26 - 5+22	LT	21 - 1	8" VCP	LEAVE AS IS
5+22	LT	1	MANHOLE	ADJUST (3)
5+22 - 7+50	LT	1	8" VCP	LEAVE AS IS
7+50	LT	1	MANHOLE	RECONSTRUCT (3)
7+50	LT	57	MANHOLE	ADJUST (3)
7+49	RT	56	MANHOLE	ADJUST (1)
7+49	RT	0 - 114	8" VCP	LEAVE AS IS
7+49	RT	114	MANHOLE	LEAVE AS IS
7+50	LT	0 - 100	8" VCP	LEAVE AS IS
19+50	RT	260	MANHOLE	LEAVE AS IS
19+50 - 21+06	RT	260 - 579	8" PVC	LEAVE AS IS
21+06	RT	579	MANHOLE	LEAVE AS IS
25+78	LT-RT	CROSSING	90'- 8" PVC	REMOVE (3)
NORTHDALE BOULEVARD				
1+49	LT	318	MANHOLE	LEAVE AS IS
1+57	LT	294	MANHOLE	LEAVE AS IS
1+49, 1+57 - 3+86	LT	318 - 48	2 - 2" PVC FORCEMAIN	LEAVE AS IS
3+86 - 5+89	LT	48 - 54	2 - 2" PVC FORCEMAIN	LEAVE AS IS
5+88	RT - LT	CROSSING	STEEL CASING	LEAVE AS IS
5+88 - 6+37	RT	37 - 125	2 - 2" PVC FORCEMAIN	LEAVE AS IS
4+11	RT	378	MANHOLE	LEAVE AS IS
4+11 - 6+12	RT	378 - 144	8" PVC	LEAVE AS IS
6+12	RT	144	MANHOLE	LEAVE AS IS

NOTES:
(3) INCLUDED IN PROJECT- SEE SANITARY SEWER TABULATION (T) FOR ADDITIONAL INFORMATION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JCD | DESIGN BY: MSL
CHKED. BY: SAW | DWG. NAME: INPUTLTAB3
DATE: NOVEMBER 10, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TABULATIONS
EXISTING UTILITIES

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S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 36 / 681

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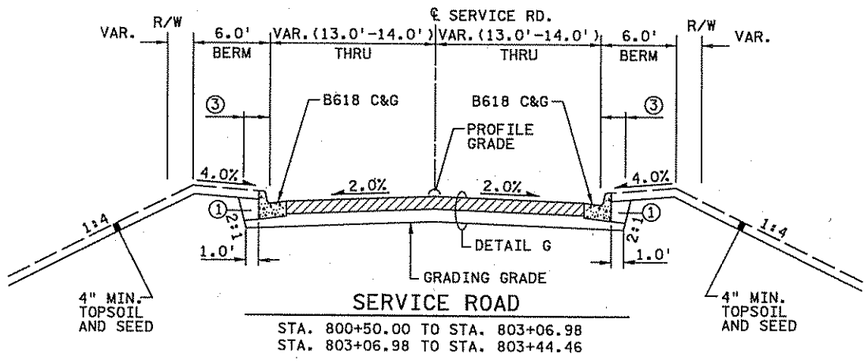
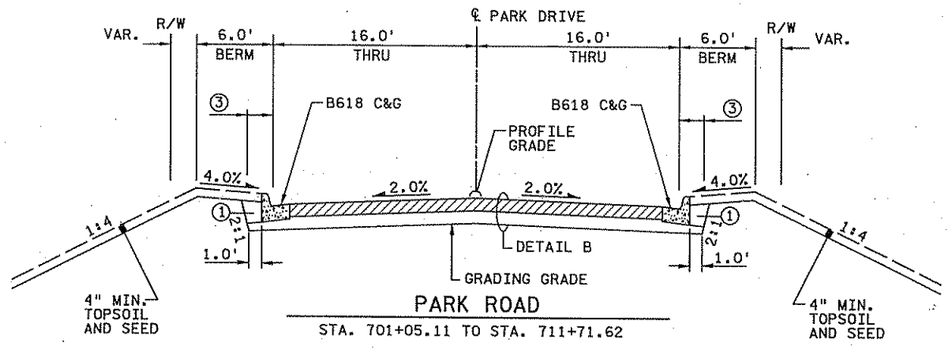


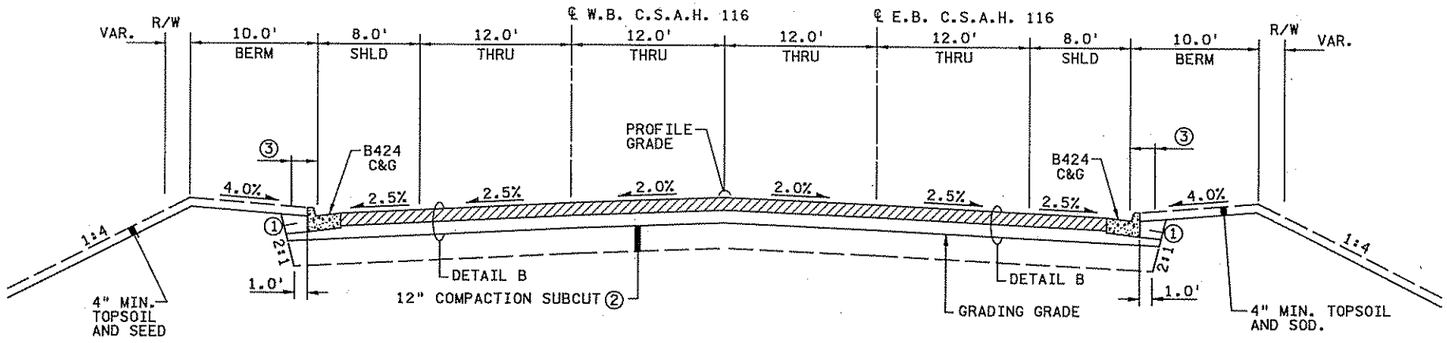
SERVICE ROAD

STA. 800+50.00 TO STA. 803+06.98
STA. 803+06.98 TO STA. 803+44.46



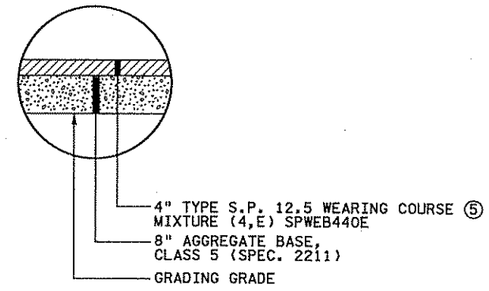
PARK ROAD

STA. 701+05.11 TO STA. 711+71.62

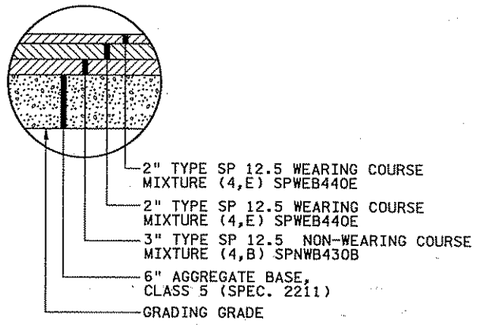


C.S.A.H. 116

STA. 43+07.44 TO STA. 47+40.83



DETAIL G



DETAIL B

NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.

⑤ WEARING COURSE SHALL BE CONSTRUCTED IN TWO LIFTS.

NO	DATE	BY	CKD	APPR	REVISION
1	12/20/06	CMT	CMT	CMT	PAVEMENT DESIGN REVISION PER MN/DOT COMMENTS
					...\5404\hi-mu\plan\5404.TSG

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: CHRIS M. TRBOYEVICH
Date 6/14/07 License # 41635

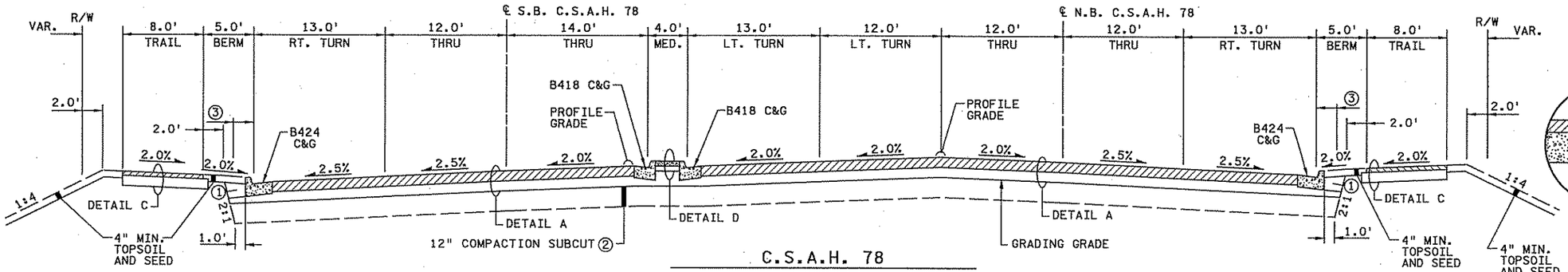
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
TYPICAL SECTIONS
C.S.A.H. 78

SHEET 35 OF 400

4/19/51 PM
6/14/2007
N:\projects\5404\hi-mu\plan\5404.TSG



C.S.A.H. 78

STA. 143+80.00 TO STA. 151+11.29

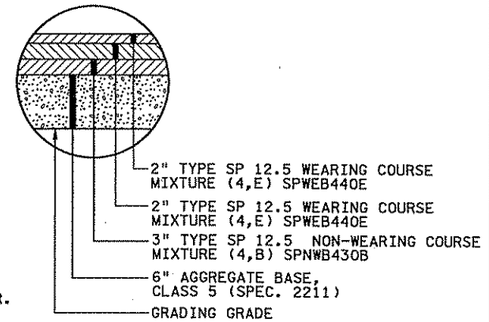
NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

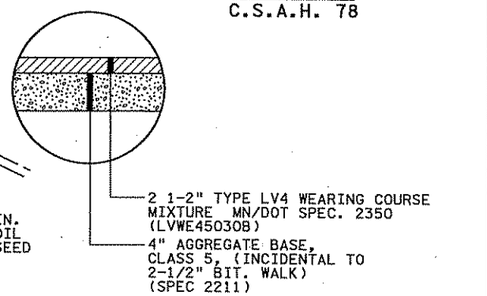
② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

③ 2.0' OBSTACLE FREE CLEAR ZONE.

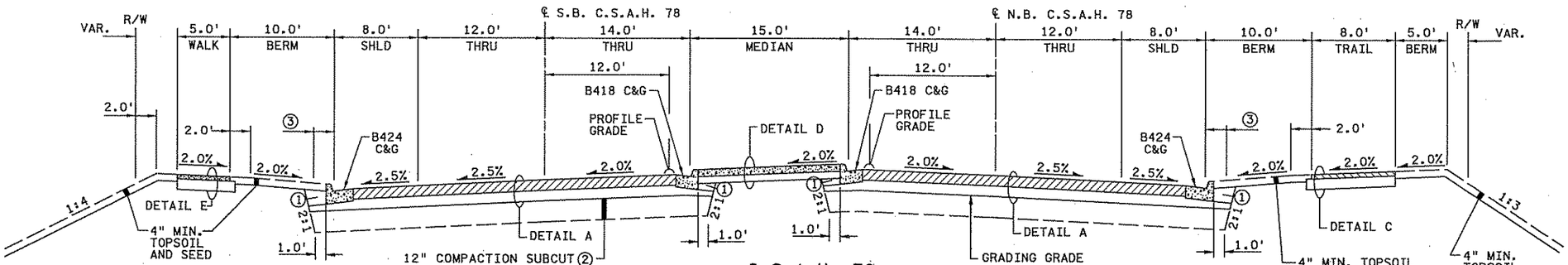
④ SEE DETAILS FOR SUBGRADE DRAINAGE.



DETAIL A
C.S.A.H. 78

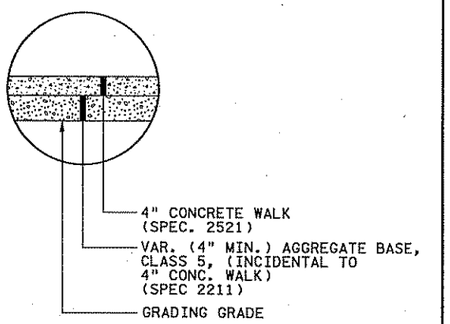


DETAIL C
BITUMINOUS WALK

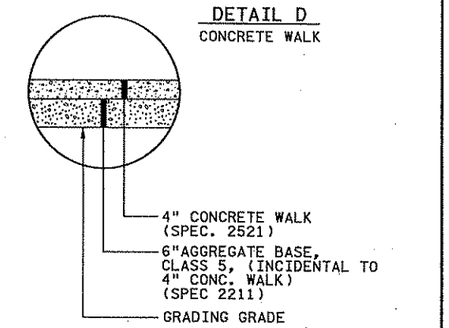


C.S.A.H. 78

STA. 89+66.06 TO STA. 98+26.22
STA. 108+16.11 TO STA. 120+75.11
STA. 158+67.47 TO STA. 166+77.13
STA. 177+14.08 TO STA. 181+63.35



DETAIL D
CONCRETE WALK



DETAIL E
CONCRETE WALK

NO	DATE	BY	CKD	APPR	REVISION
1	12/20/06	CMT	CMT	CMT	PAVEMENT DESIGN REVISION PER MN/DOT COMMENTS

...\5404\hl-mu\plan\5404.TSB

4:39:51 PM
6/14/2007
h:\projects\5404\hl-mu\plan\5404.TSB

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/14/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

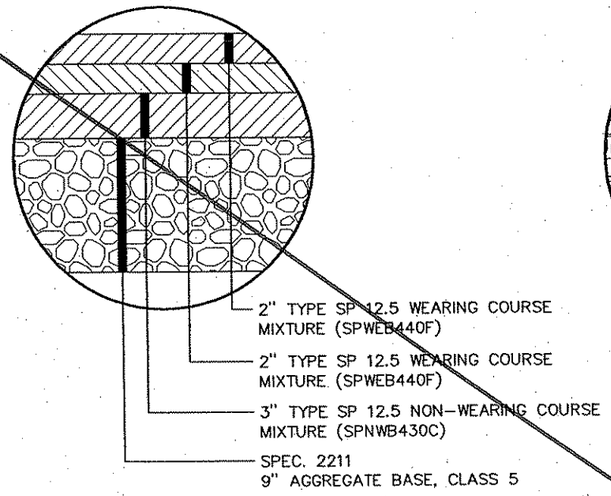
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

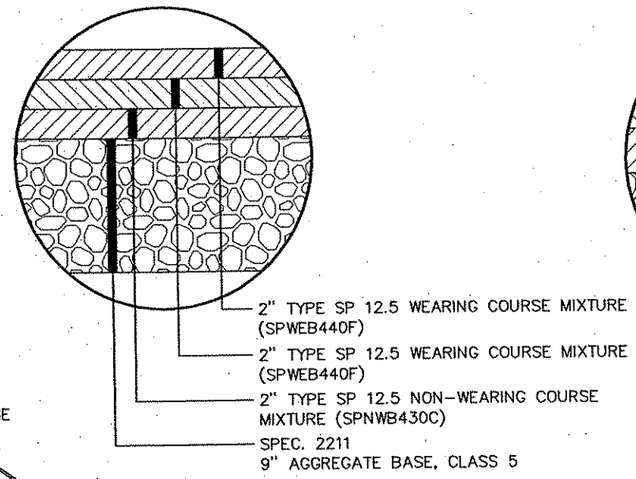
TYPICAL SECTIONS
C.S.A.H. 78

SHEET 36 OF 400

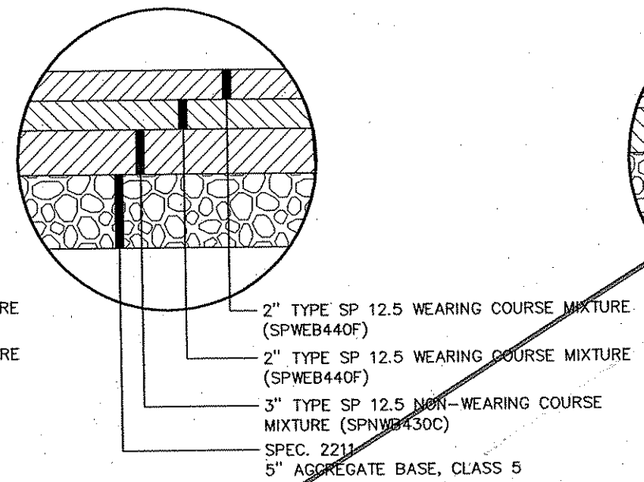
Xref'd Drawings
-DWG_BDR
34bdr



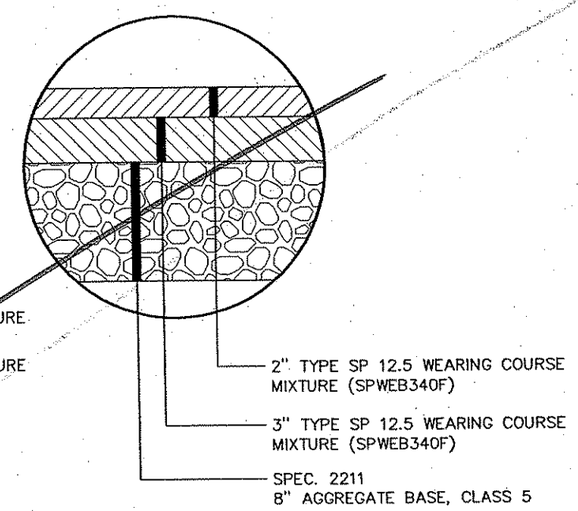
INSET A
HANSON BOULEVARD (CSAH 78 AND CSAH 11)
NORTHDALE BOULEVARD (CSAH 11)
RAMP B2 DECELERATION LANE
RAMP D ACCELERATION LANE
RAMP B1, RAMP B2, CONNECTION B
RAMP D, CONNECTION D



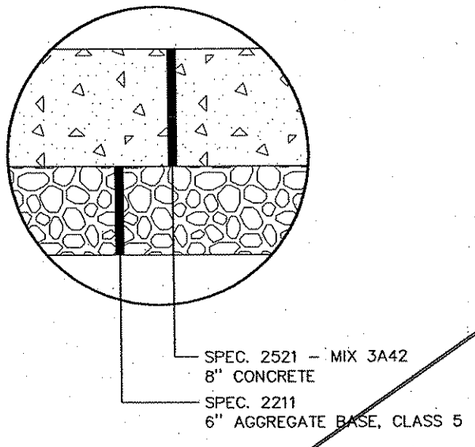
INSET B
RAMP A ACCELERATION LANE
RAMP C DECELERATION LANE
RAMP A, CONNECTION A
RAMP C, RAMP C2, CONNECTION C



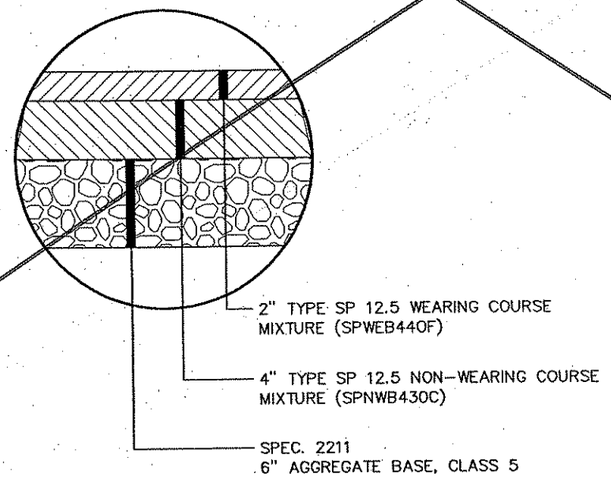
INSET C
T.H. 10 SHOULDERS



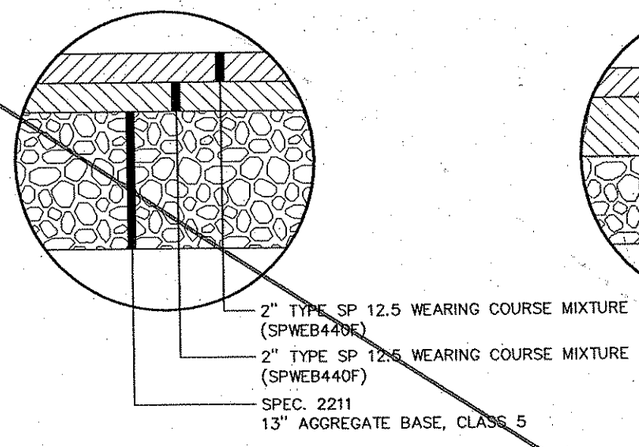
INSET D
COMMERCIAL DRIVEWAYS



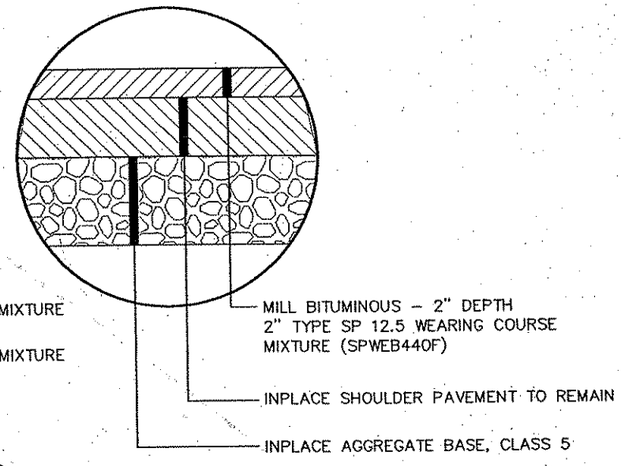
INSET E
COMMERCIAL DRIVEWAY APRONS



INSET F
TEMPORARY BYPASS PAVEMENT
NORTHDALE BOULEVARD (CSAH 11)



INSET G
BITUMINOUS SHOULDER
UNDER BRIDGE



INSET H
2" MILL AND OVERLAY
TH 10/47 INSIDE SHOULDER

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TYP01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TYPICAL SECTIONS
PAVEMENT INSETS

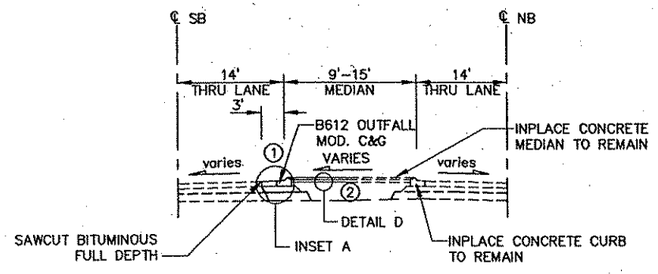
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 37 / 681

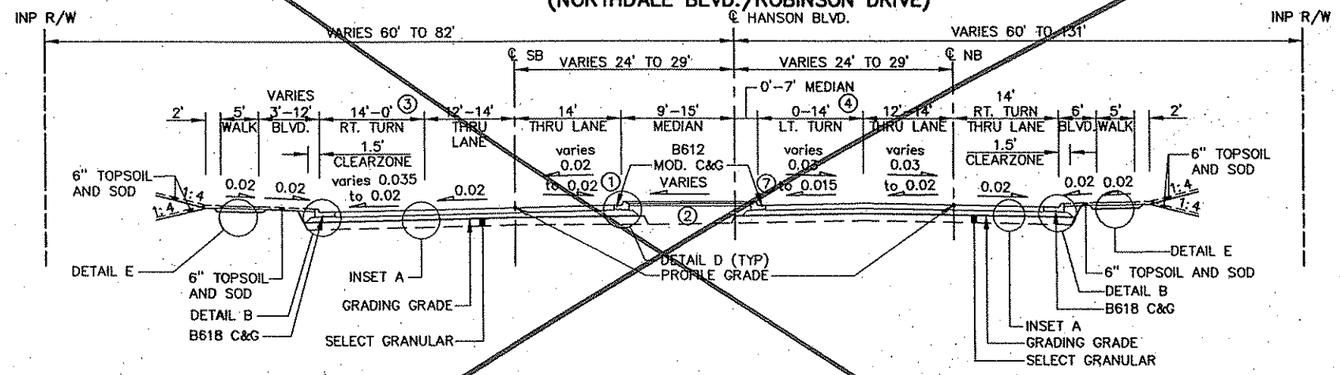
PLOT DATE: Jan 07 10:19am DISK FILE NAME: (16,1) R:\33889\33889042\PLAN-SHT\PRO-CONST\042-T

Word Drawings
F-DWG-BDR
x34bdr

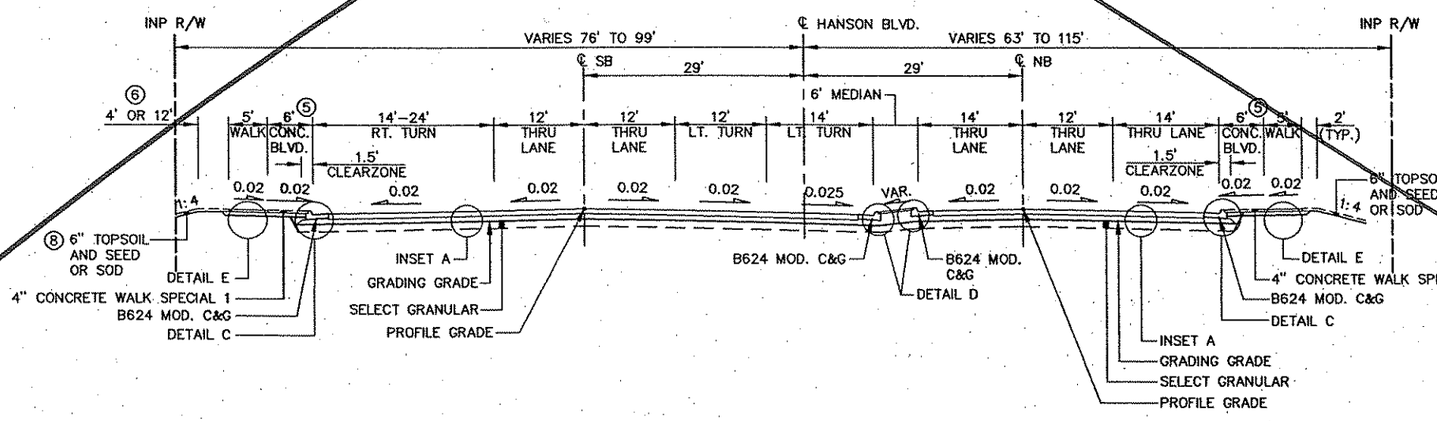
PROPOSED TYPICAL SECTION – HANSON BOULEVARD (CSAH 78)
STA. 3+16.41 TO STA. 3+83.16



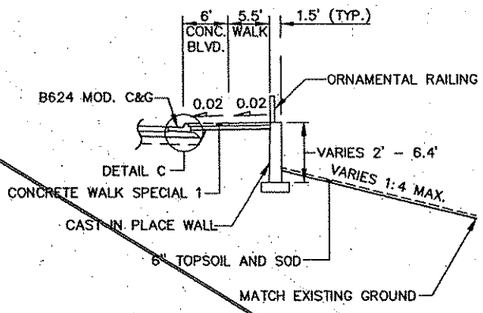
PROPOSED TYPICAL SECTION – HANSON BOULEVARD (CSAH 78)
STA. 3+91.29 TO STA. 6+96.43
(NORTHDALE BLVD./ROBINSON DRIVE)



PROPOSED TYPICAL SECTION – HANSON BOULEVARD (CSAH 11)
STA. 8+18.24 (NORTHDALE BLVD./ROBINSON DR.) TO STA. 10+16.90 (BEGIN 1:15 MEDIAN TAPER)



CAST IN PLACE RETAINING WALL NO. 6
STA. 8+75, 39.00' RT. TO STA. 10+62, 49.25' RT.



GENERAL NOTES

- ALL CROSS SLOPES ARE IN FT/FT
- GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISH GRADE, UNLESS SPECIFIED OTHERWISE.
- ALL SECTIONS SHOWN ARE FOR NORMAL CROWN. FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLANS.
- ALL HANSON BLVD. STATIONS REFER TO HANSON NORTHBOUND ALIGNMENT
- SEE SHEET 50 FOR MISCELLANEOUS DETAILS

NOTES

(1) OUTFALL C&G STA. 3+16.41 TO STA. 4+80.42

(2) BACKFILL WITH GRANULAR MATERIAL

(3) STA. 3+82.10 TO STA. 5+88.61

(4) STA. 3+91.29 TO STA. 6+96.43

(5) STA. 8+43.72 TO 10+16.90, RT.
STA. 8+44.09 TO 10+16.30, LT.

(6) 4' – STA. 8+15 TO STA. 8+40 LT.
12' – STA. 8+40 TO STA. 9+30 LT.
4' – STA. 9+30 TO STA. 10+16.30, LT.
(SEE CROSS SECTIONS)

(7) OUTFALL C&G STA. 3+90.28 TO STA. 5+77

(8) SEE TURF ESABLISHMENT PLAN

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: SAW | DWG. NAME: TYP02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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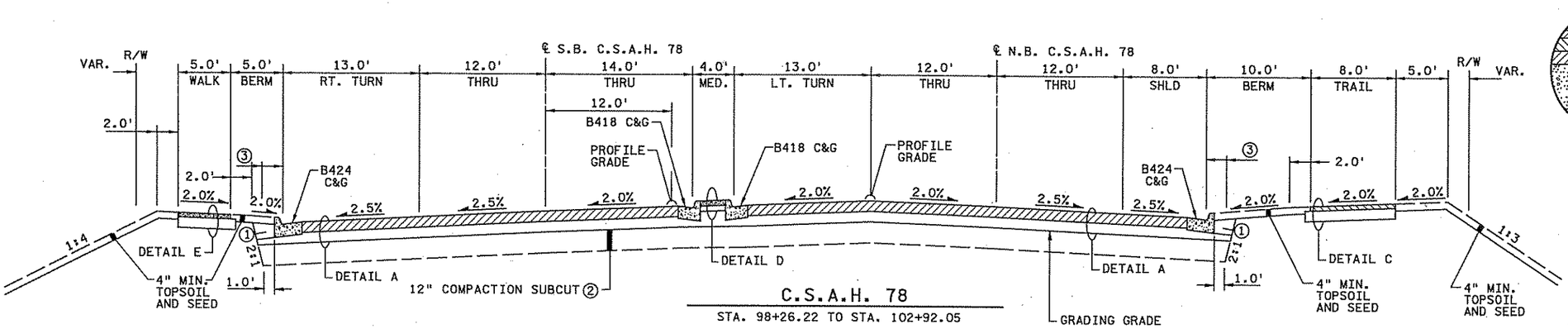
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TYPICAL SECTIONS
HANSON BOULEVARD

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

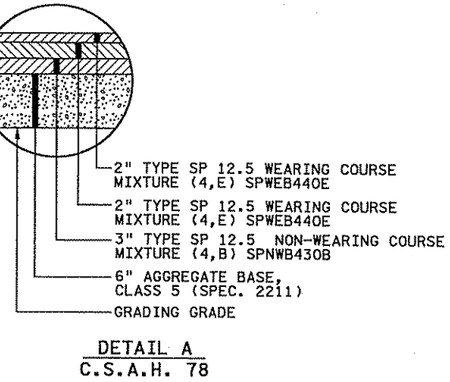
SHEET NO. 38

PLOT DATE: Jan. 9 2007 10:19am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-T

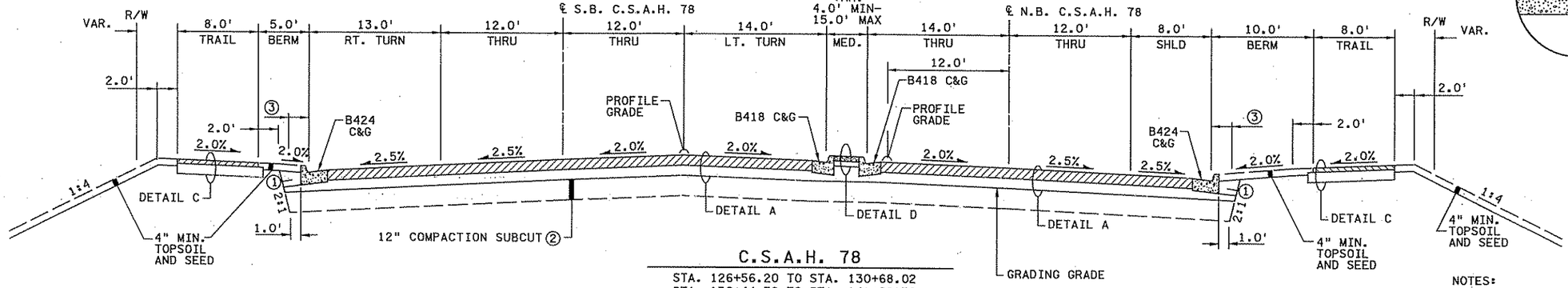


C.S.A.H. 78

STA. 98+26.22 TO STA. 102+92.05

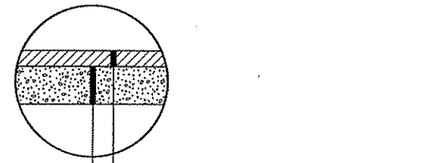


DETAIL A
C.S.A.H. 78



C.S.A.H. 78

STA. 126+56.20 TO STA. 130+68.02
STA. 136+44.70 TO STA. 141+08.56
STA. 172+46.17 TO STA. 177+14.08



DETAIL C
BITUMINOUS WALK

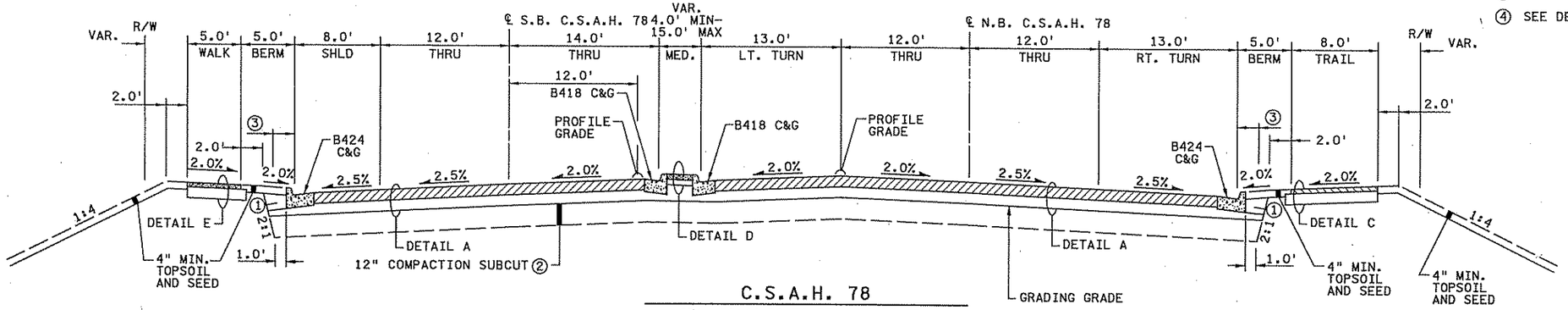
NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

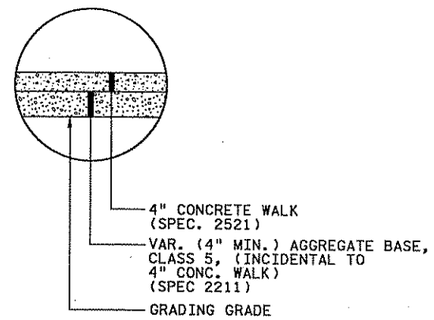
③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.



C.S.A.H. 78

STA. 80+44.30 TO STA. 84+37.35
STA. 120+75.11 TO STA. 125+40.00
STA. 130+68.02 TO STA. 135+33.07
STA. 166+77.13 TO STA. 171+50.68



DETAIL D
CONCRETE WALK

NO	DATE	BY	CKD	APPR	REVISION
1	12/20/06	CMT	CMT	CMT	PAVEMENT DESIGN REVISION PER MN/DOT COMMENTS

...\5404\hl-mu\plan\5404.TSC

4:39:52 PM
6/14/2007
...\5404\hl-mu\plan\5404.TSC

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Print Name: CHRIS M. TRBOYEVICH

Date 6/14/07 License # 41635

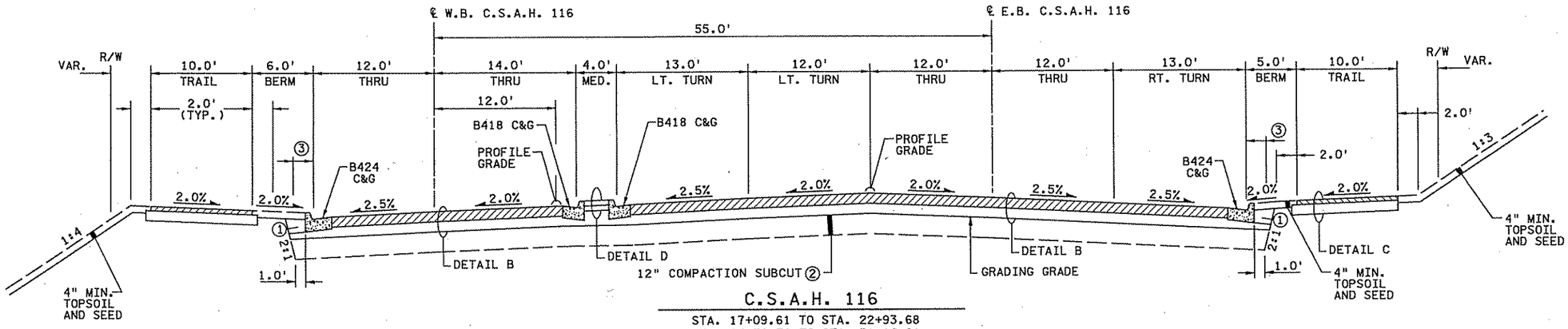
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

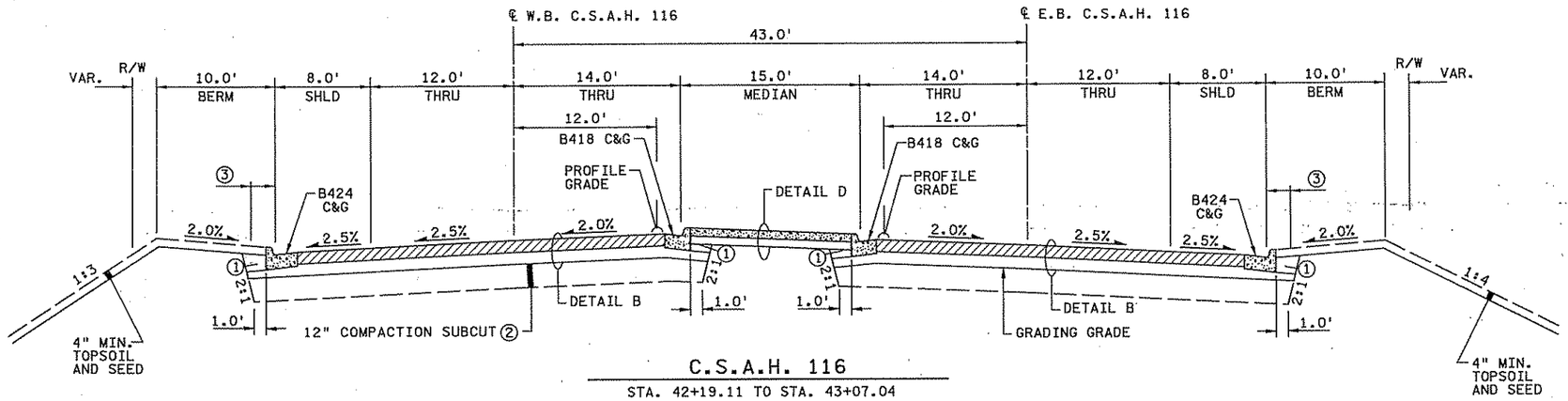
TYPICAL SECTIONS
C.S.A.H. 78

SHEET 37 OF 400



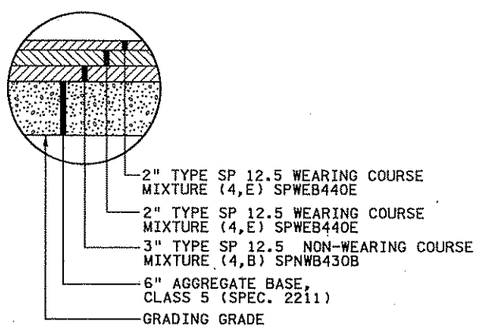
C.S.A.H. 116

STA. 17+09.61 TO STA. 22+93.68
STA. 24+56.70 TO STA. 31+16.91

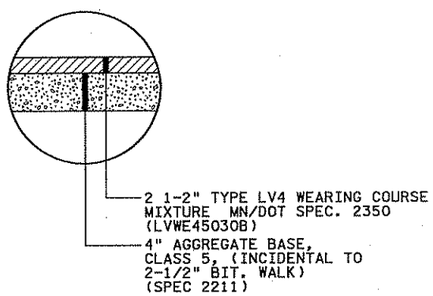


C.S.A.H. 116

STA. 42+19.11 TO STA. 43+07.04



DETAIL B
C.S.A.H. 116



DETAIL C
BITUMINOUS WALK

NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.

NO	DATE	BY	CKD	APPR	REVISION
1	12/20/06	CMT	CMT	CMT	PAVEMENT DESIGN REVISION PER MN/DOT COMMENTS

...\5404\hl-mu\plan\5404.TSF

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Print Name: CHRIS M. TRBOYEVICH
Date 6/14/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

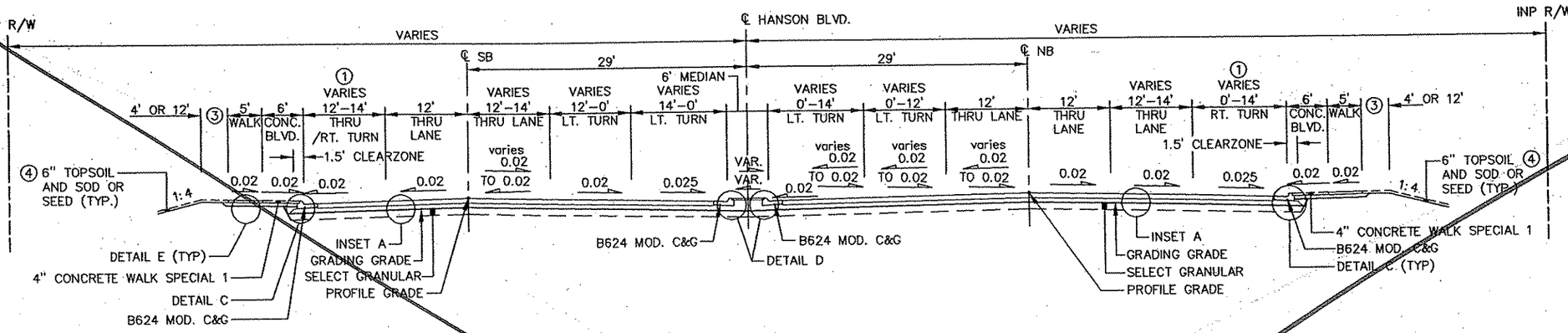
ANOKA COUNTY
TYPICAL SECTIONS
C.S.A.H. 78

SHEET 38 OF 400

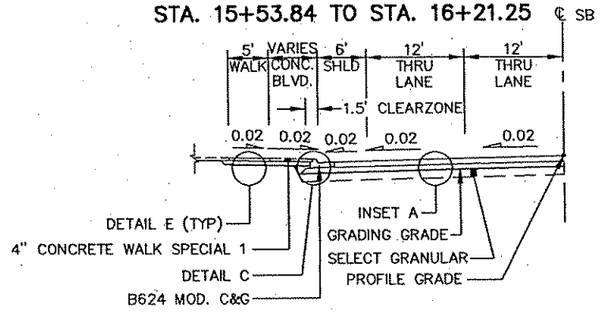
4/19/53 PM
12/20/06
H:\projects\5404\hl-mu\plan\5404.TSF

Xref's, Drawings
ISN-ESM
ISN-ALI
D-ESM
F-DWG-BDR
x34bdr

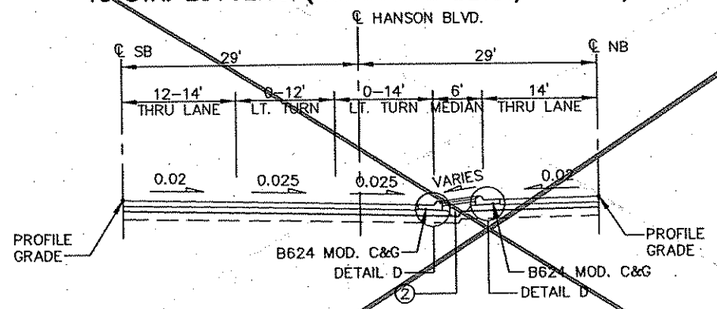
PROPOSED TYPICAL SECTION – HANSON BOULEVARD (CSAH 11)
STA. 10+16.90 (BEGIN 1:15 MEDIAN TAPER) TO STA. 13+20.84 (BRIDGE APPROACH PANEL–BRIDGE No. 02567)



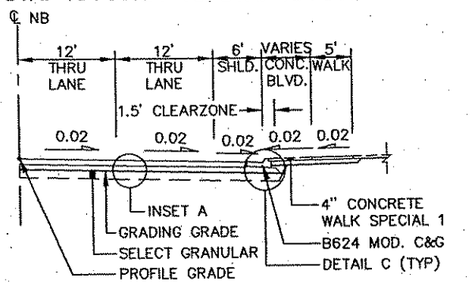
PROPOSED TYPICAL SECTION SHOULDER AT INTERCHANGE ISLANDS HANSON BOULEVARD SOUTHBOUND STA. 12+60.16 TO STA. 13+20.84 STA. 15+53.84 TO STA. 16+21.25



DOUBLE LEFT TURN LANES STA. 15+53.84 (BRIDGE APPROACH PANEL–BRIDGE No. 02567) TO STA. 23+92.36 (NORTHDALE BLVD./CSAH 11)



PROPOSED TYPICAL SECTION SHOULDER AT INTERCHANGE ISLANDS HANSON BOULEVARD NORTHBOUND STA. 12+55.79 TO STA. 13+20.84 STA. 15+53.84 TO STA. 18+38.98



GENERAL NOTES

- ALL CROSS SLOPES ARE IN FT/FT
- GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISH GRADE, UNLESS SPECIFIED OTHERWISE.
- ALL SECTIONS SHOWN ARE FOR NORMAL CROWN. FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLANS.
- ALL HANSON BLVD. STATIONS REFER TO HANSON NORTHBOUND ALIGNMENT
- SEE SHEET 50 FOR MISCELLANEOUS DETAILS

NOTES

① 6' SHOULDER ADJACENT TO INTERCHANGE ISLANDS (SEE TYPICAL SECTION THIS SHEET)

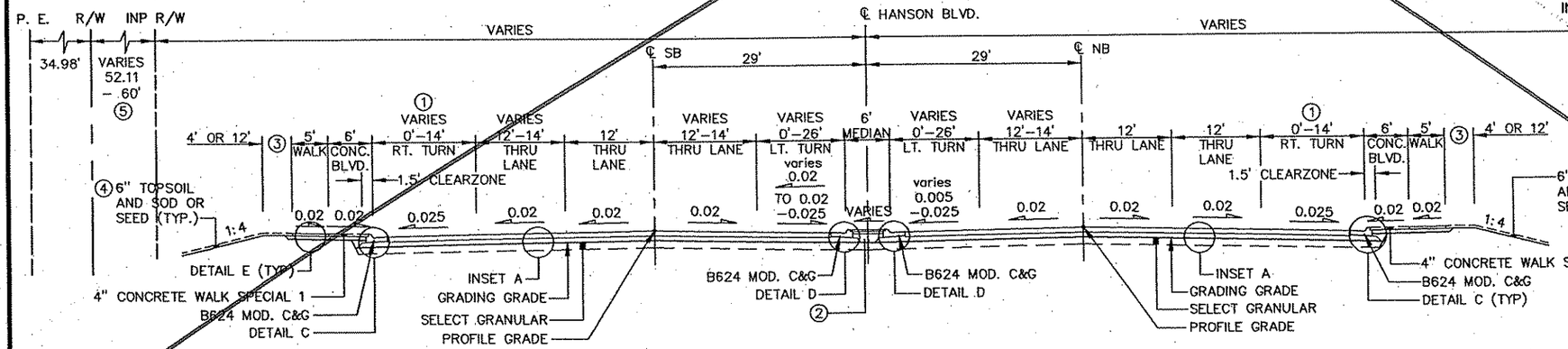
② BACKFILL WITH GRANULAR MATERIAL WHEN > 10' WIDE. BACKFILL WITH CL. 5 WHEN < 10' WIDE

③ 4' – STA. 10+16 TO STA. 11+40 LT.
STA. 10+40 TO STA. 11+40 RT.
STA. 17+60 TO STA. 20+00 LT.
STA. 17+60 TO STA. 20+00 RT.
12' – STA. 11+40 TO STA. 12+50 LT.
STA. 11+40 TO STA. 12+50 RT.
STA. 16+30 TO STA. 17+60 LT.
STA. 16+40 TO STA. 17+60 RT.
2' – STA. 20+00 TO STA. 23+92, LT. & RT. (SEE CROSS SECTIONS)

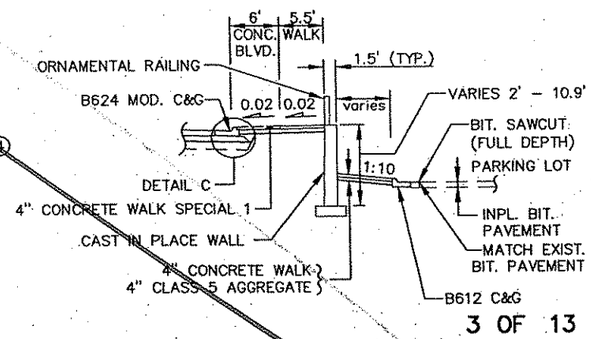
④ SEE TURF ESTABLISHMENT PLAN

⑤ STA. 23+18.5 TO STA. 23+92.36

PROPOSED TYPICAL SECTION – HANSON BOULEVARD (CSAH 11)
STA. 15+53.84 (BRIDGE APPROACH PANEL–BRIDGE No. 02567) TO STA. 23+92.36 (NORTHDALE BLVD./CSAH 11)



CAST IN PLACE RETAINING WALL No. 7 STA. 19+75, 51.00' RT. TO STA. 22+90, 51.00' RT.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: SAW | DWG. NAME: TYP03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TYPICAL SECTIONS
HANSON BOULEVARD

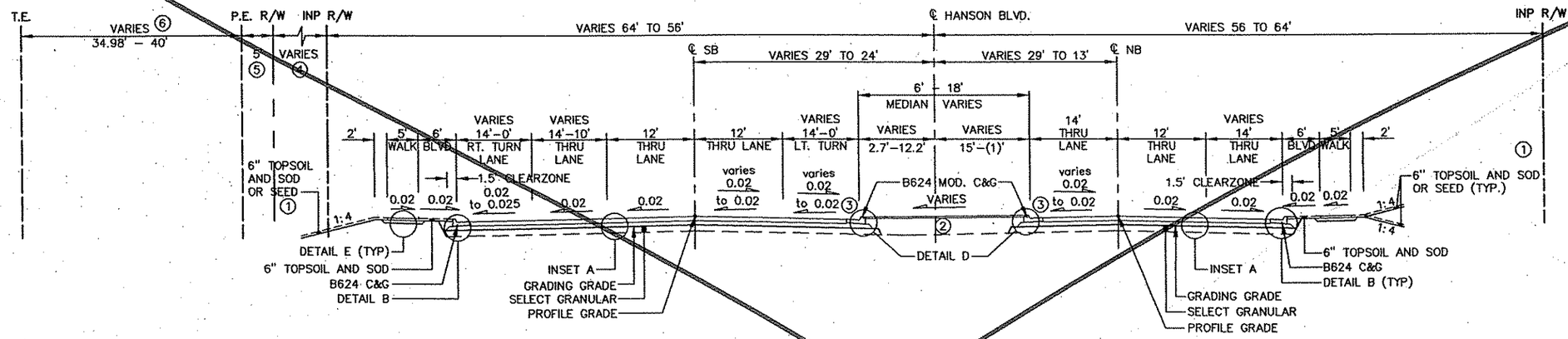
CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 39 / 681

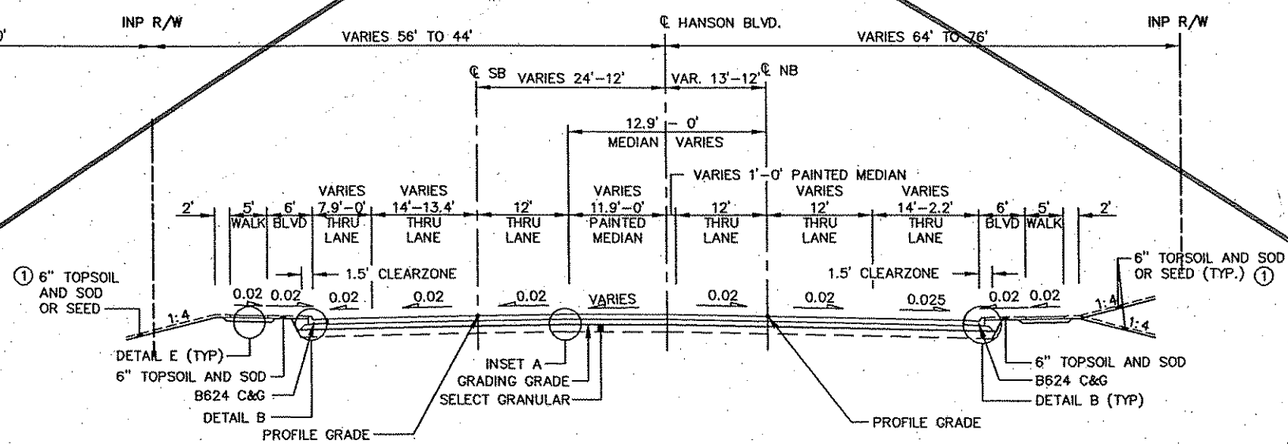
PLOT DATE: Jan .007 10:19am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-Tg

Xref'd Drawings
sn-psg
ISN-PCO
D-ESM
ISN-ALI
ISN-ESU
F-DWG-BDR
x34bdr

PROPOSED TYPICAL SECTION – HANSON BOULEVARD (CSAH 78)
STA. 23+92.36 (NORTHDALE BLVD./CSAH 11) TO STA. 30+36.64 (END CONCRETE MEDIAN)



PROPOSED TYPICAL SECTION – HANSON BOULEVARD (CSAH 78)
STA. 30+36.64 (END CONCRETE MEDIAN) TO STA. 34+34.41 (END CONSTRUCTION)



GENERAL NOTES

- ALL CROSS SLOPES ARE IN FT/FT
- GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISH GRADE, UNLESS SPECIFIED OTHERWISE.
- ALL SECTIONS SHOWN ARE FOR NORMAL CROWN. FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLANS.
- ALL HANSON BLVD. STATIONS REFER TO HANSON BASELINE ALIGNMENT
- SEE SHEET 50 FOR MISCELLANEOUS DETAILS

NOTES

① SEE TURF ESTABLISHMENT PLAN

② BACKFILL WITH GRANULAR MATERIAL

③ OUTFALL C&G STA. 29+40 TO STA. 30+36

④ STA. 23+92.36 TO STA. 24+92, 60' R/W
STA. 24+92 TO STA. 28+88.47, 12' R/W
STA. 28+88.47 TO STA. 30+91.52, 7' R/W

⑤ STA. 24+92 TO STA. 28+88.47

⑥ STA. 24+23 TO STA. 24+92.20, 34.98' TE
STA. 24+92.2 TO STA. 32+58.90, 40' TE
STA. 32+58.90, TE ENDS

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889–042
DRAWN BY: IKR	DESIGN BY: IKR
CHKED. BY: SAW	DWG. NAME: TYP04
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

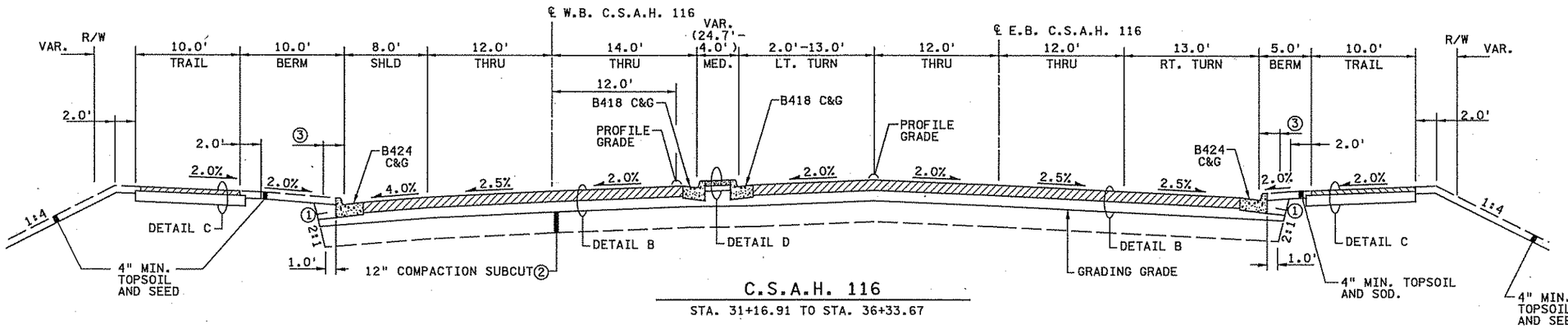
TH 10/HANSON BOULEVARD INTERCHANGE
TYPICAL SECTIONS
HANSON BOULEVARD

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 40

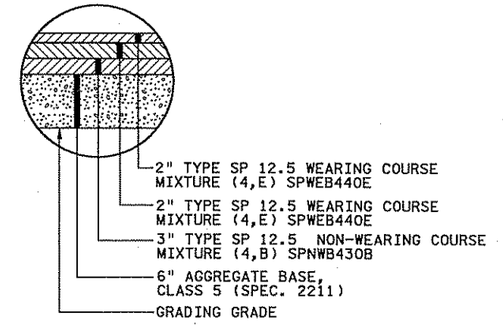
4 OF 681

PLOT DATE: Jan 2007 10:19am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-T

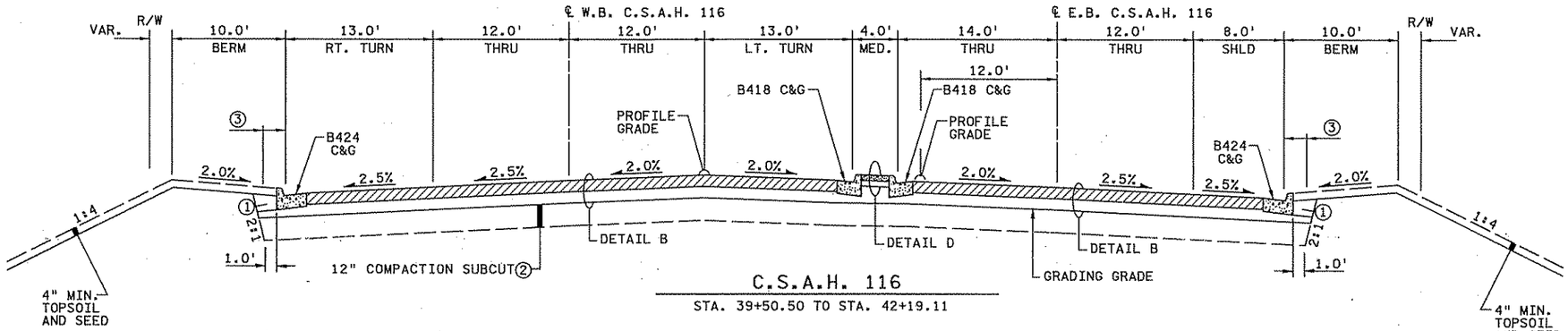


C.S.A.H. 116

STA. 31+16.91 TO STA. 36+33.67

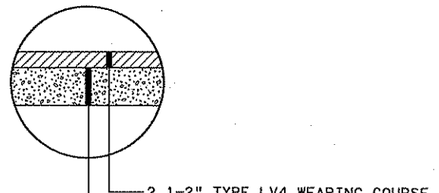


DETAIL B
C.S.A.H. 116

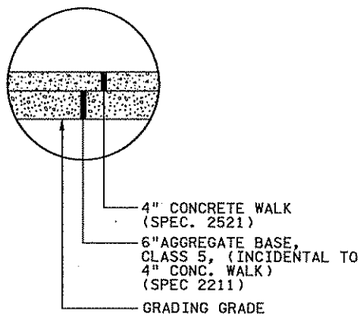


C.S.A.H. 116

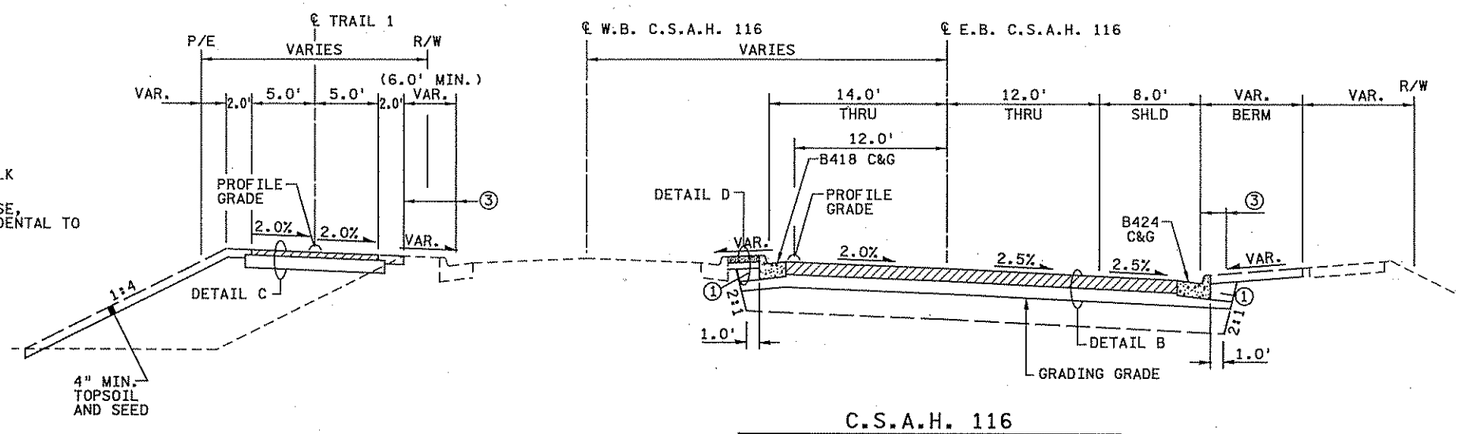
STA. 39+50.50 TO STA. 42+19.11



DETAIL C
BITUMINOUS WALK

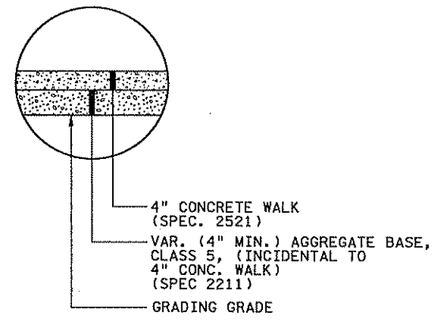


DETAIL E
CONCRETE WALK



C.S.A.H. 116

STA. 12+48.95 TO STA. 17+09.61



DETAIL D
CONCRETE WALK

NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.

NO	DATE	BY	CKD	APPR	REVISION
1	12/20/06	CMT	CMT	CMT	PAVEMENT DESIGN REVISION PER MN/DOT COMMENTS

...\5404\hl-mu\plan\5404.TSE

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/14/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

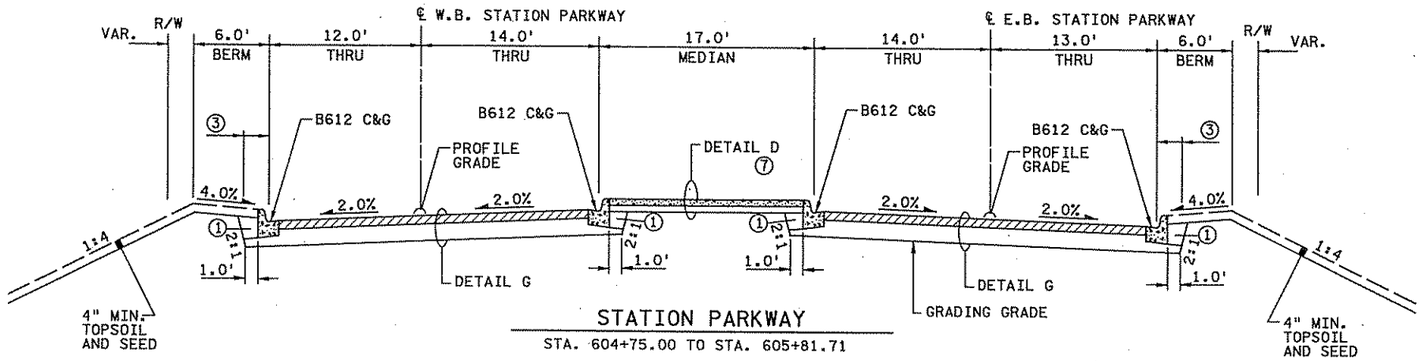
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TYPICAL SECTIONS
C.S.A.H. 78

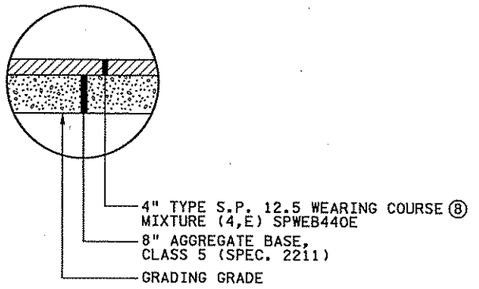
SHEET 39 OF 400

4:39:54 PM
6/14/2007
h:\projects\5404\hl-mu\plan\5404.TSE

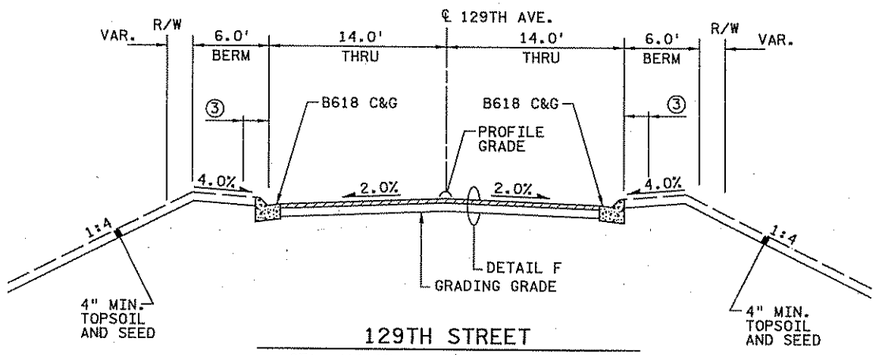


STATION PARKWAY

STA. 604+75.00 TO STA. 605+81.71

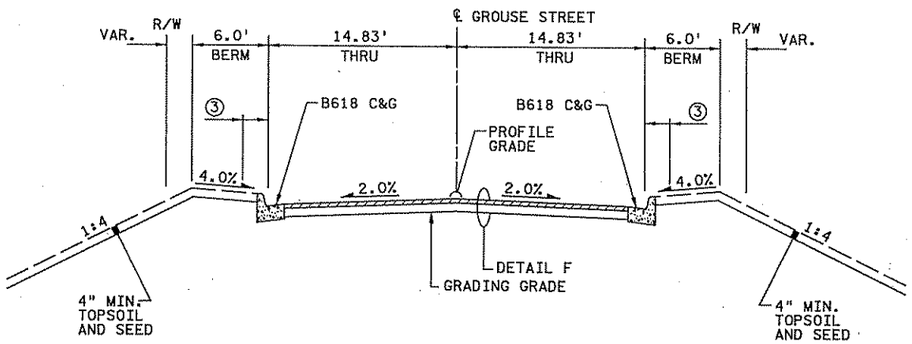


DETAIL G



129TH STREET

STA. 400+67.50 TO STA. 401+91.63



GROUSE STREET

STA. 21+27.61 TO STA. 21+94.23

NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

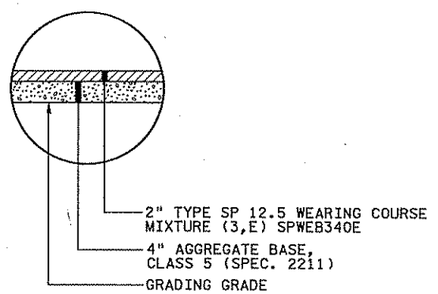
② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.

⑦ STA. 605+50.00-605+68.94. INSTALL SALVAGED STONE PAVERS. SEE CONSTRUCTION PLAN.

⑧ WEARING COURSE SHALL BE CONSTRUCTED IN TWO LIFTS.



DETAIL F

NO	DATE	BY	CKD	APPR	REVISION
1	12/20/06	CMT	CMT	CMT	PAVEMENT DESIGN REVISION PER MN/DOT COMMENTS

...\5404\hl-mu\plan\5404.TSH

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Chris Trboyevich

Date 6/18/07 License # 41635

STATE AID PROJECT NO. 02-678-16

STATE PROJECT NO. X

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY D.FITCHORN

DESIGNED BY C.TRBOYEVICH

CHECKED BY M. TURNER

COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TYPICAL SECTIONS

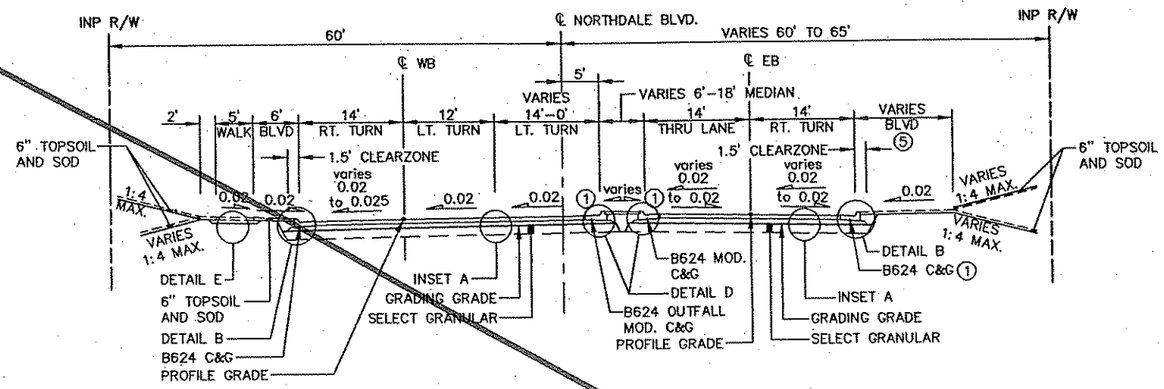
C.S.A.H. 78

SHEET 40 OF 400

4:39:54 PM
6/14/2007
h:\projects\5404\hl-mu\plan\5404.TSH

Xref'd Drawings
REF-DWG-BDR
22x34bdr

PROPOSED TYPICAL SECTION – NORTHDALE BOULEVARD (CSAH 11)
STA. 0+82.00 (HANSON BLVD.) TO STA. 5+79.73 (JAY STREET)



GENERAL NOTES

- ALL CROSS SLOPES ARE IN FT/FT
- GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISH GRADE, UNLESS SPECIFIED OTHERWISE.
- FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLANS.
- REFER TO SUPER ELEVATION PLANS FOR ROADWAY SLOPES AND TRANSITIONS.
- ALL NORTHDALE BLVD. STATIONS REFER TO NORTHDALE BASELINE ALIGNMENT
- SEE SHEET 50 FOR MISCELLANEOUS DETAILS

NOTES

① B624 OUTFALL CURB & GUTTER,
STA. 0+82.45 (BEGIN MEDIAN) TO STA. 5+51.78 (END MEDIAN), 6.6' RT–7' LT.
STA. 0+82.37 (BEGIN MEDIAN) TO STA. 4+13.27, 13' RT.
STA. 4+13.27 TO STA. 5+32.15, 37' RT.

② SEE TURF ESTABLISHMENT PLAN.

③ END B624 CURB & GUTTER / BEGIN 8' SHLD.
STA. 6+50, 37.7' LT.

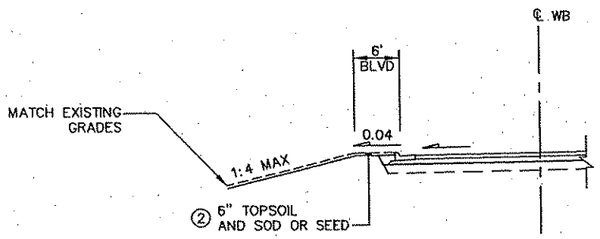
④ TEMPORARY BYPASS CONSTRUCTION– INSTALL GEOTEXTILE FABRIC TYPE V ON TOP OF EXISTING GROUND IN FILL AREA PRIOR TO CONSTRUCTING NEW EMBANKMENT.

⑤ 13' BOULEVARD
STA. 0+82 TO STA.4+00
6' BOULEVARD
STA. 4+50 TO STA. 5+50

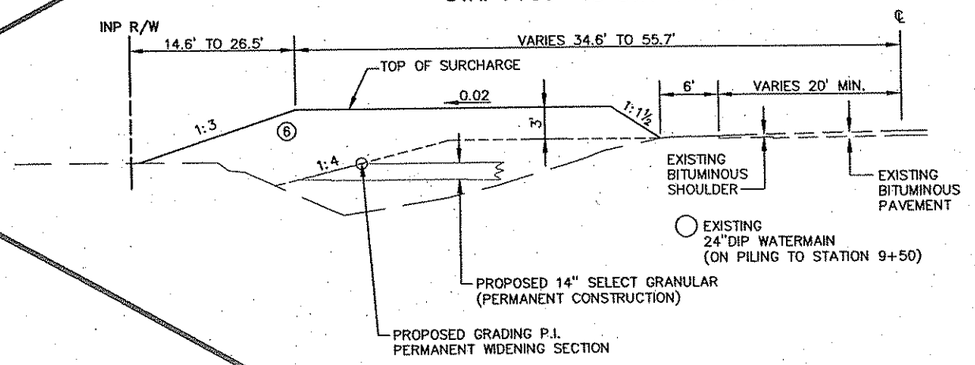
⑥ EXTEND TOP OF SURCHARGE OUT TO THE END OF CULVERT NUMBER 5252.

⑦ 6' DITCH WIDTH – STA 5+79.73 TO STA 11+00.00
4' DITCH WIDTH – STA 11+50.00 TO STA 16+00.00

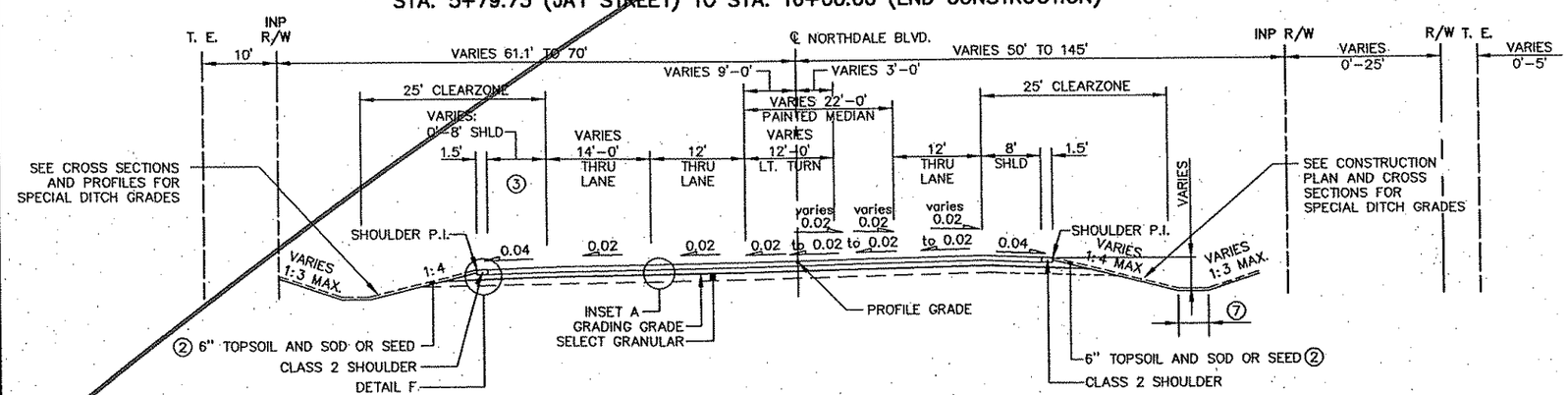
PROPOSED TYPICAL SECTION – CURB & GUTTER WITH NO SIDEWALK
STA. 4+10.76 TO STA. 7+50, LT.



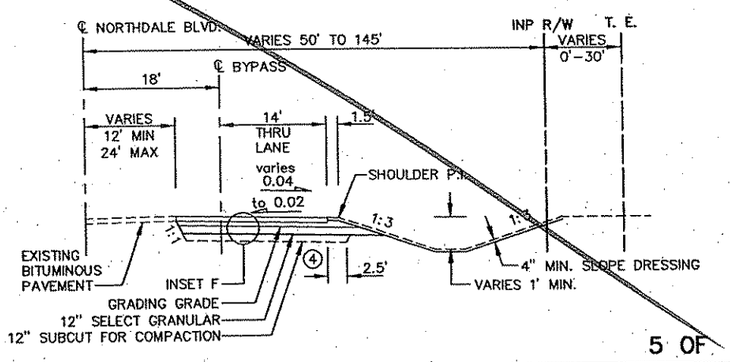
SURCHARGE TYPICAL SECTION – NORTHDALE BOULEVARD
STA. 7+50 TO STA. 12+50



PROPOSED TYPICAL SECTION – NORTHDALE BOULEVARD (CSAH 11)
STA. 5+79.73 (JAY STREET) TO STA. 16+00.00 (END CONSTRUCTION)



PROPOSED TEMPORARY TYPICAL SECTION – NORTHDALE BOULEVARD (CSAH 11)
BYPASS No. 1 – STA. 0+72 TO STA. 19+75, RT.
BYPASS No. 2 – STA. 11+21 TO STA. 19+75, LT.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: SAW | DWG. NAME: TYP05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TYPICAL SECTIONS
NORTHDALE BOULEVARD

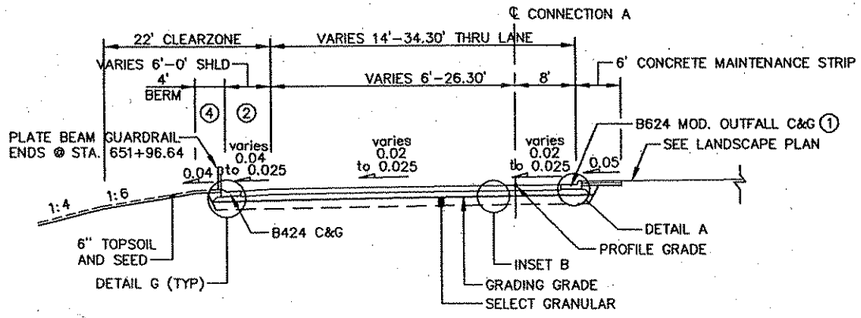
CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 41
681

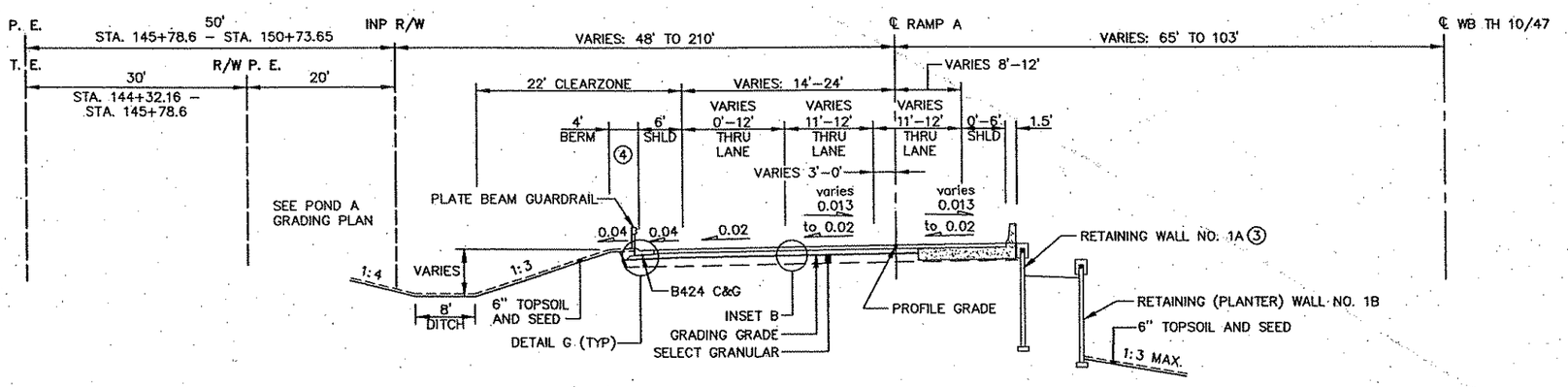
PLOT DATE: Jan 2007 10:19am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-T

Xref'd Drawings
HNSN-ALI
HNSN-PCO
HNSN-ESU
REF-DWG-BDR
22x34bdr

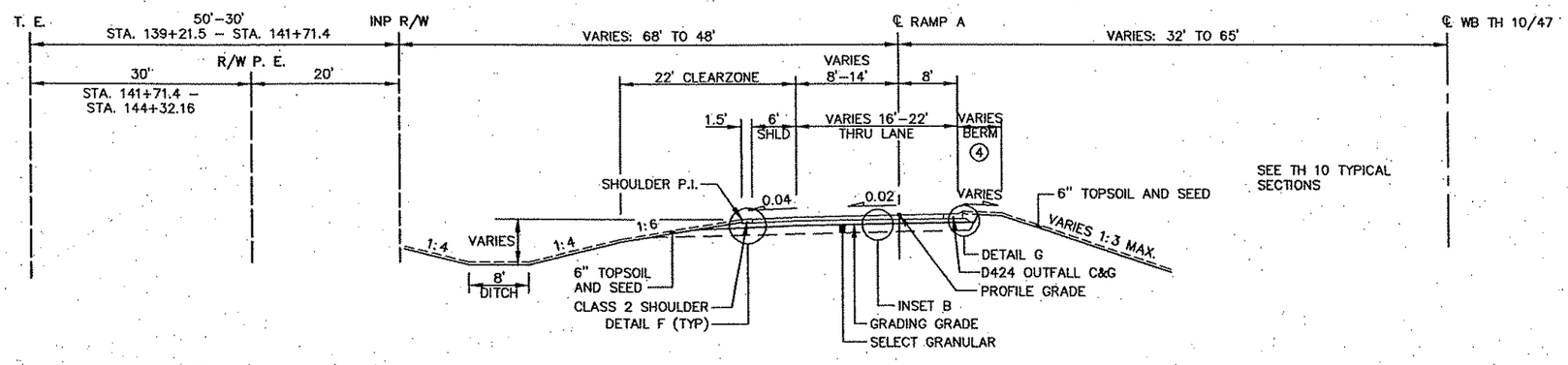
PROPOSED TYPICAL SECTION – CONNECTION A
STA. 650+73.65 TO STA. 652+90.74



PROPOSED TYPICAL SECTION – RAMP A
STA. 141+00 (BEGIN B424 C&G RT.) TO STA. 150+73.65



PROPOSED TYPICAL SECTION – RAMP A
STA. 138+68.79 (BEGIN RAMP) TO STA. 144+32.16 (BEGIN SHLD. RT.)



GENERAL NOTES

- ALL CROSS SLOPES ARE IN FT/FT
- GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISH GRADE, UNLESS SPECIFIED OTHERWISE.
- ALL SECTIONS SHOWN ARE FOR NORMAL CROWN. FOR SUPERELEVATIONS SEE SUPERELEVATION PLANS.
- SEE SHEET 50 FOR MISCELLANEOUS DETAILS

NOTES

① B624 OUTFALL CURB & GUTTER (CONCRETE ISLAND)
CONNECTION A STA. 651+49.62 TO STA. 652+56.86, RT.

② 6'–0' SHLD.
CONNECTION A STA. 650+73.65 TO STA. 652+06.01, LT.

③ END D424 C&G
BEGIN RETAINING WALL NO. 1A
RAMP A STA. 146+00.98, 14.22' RT.

④ 6' BERM @ 4%
STA. 140+50 TO STA. 144+32.16

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: SAW | DWG. NAME: TYP06
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

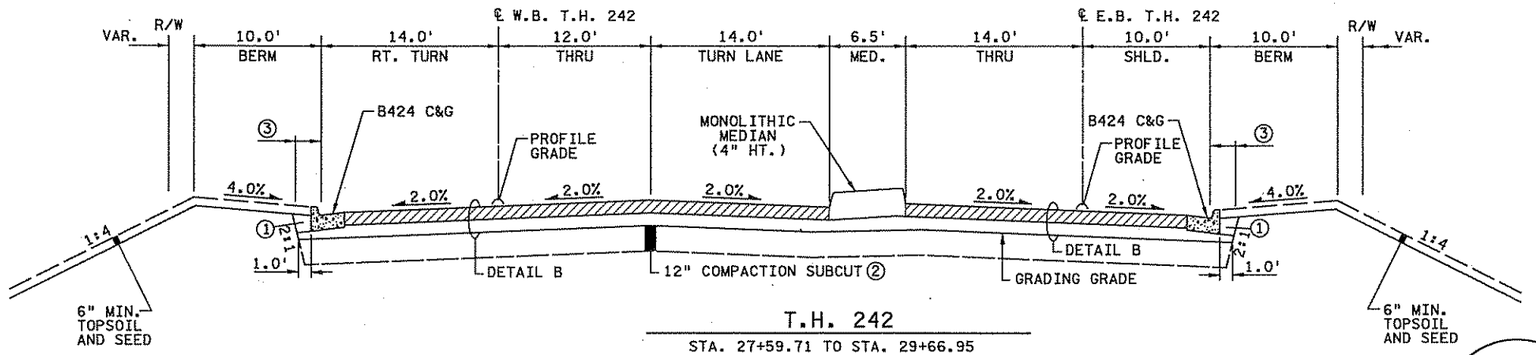
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TYPICAL SECTIONS
RAMP A
RAMP A CONNECTION

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

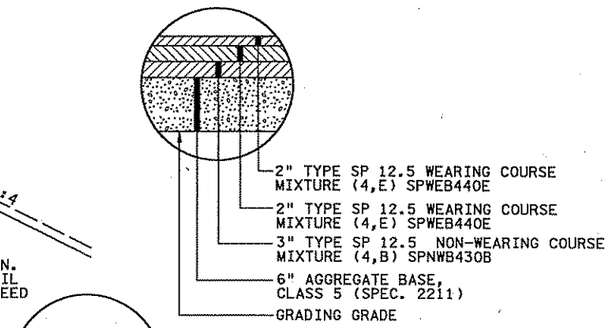
SHEET NO. 42 / 681

PLOT DATE: Jan 07 10:19am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-T



T.H. 242

STA. 27+59.71 TO STA. 29+66.95



DETAIL B

NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

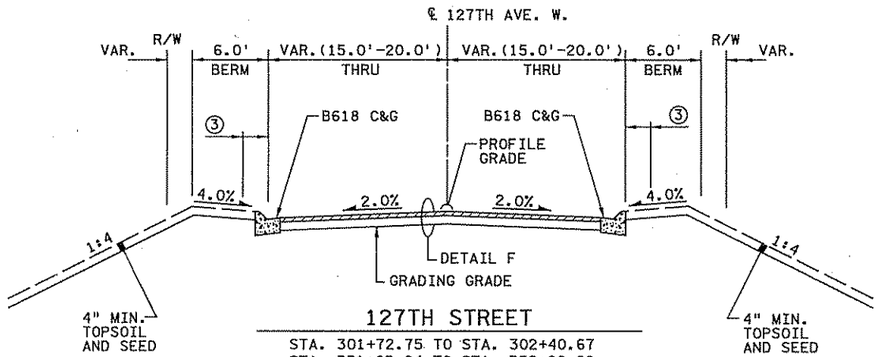
② MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 12 INCHES, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.

③ 2.0' OBSTACLE FREE CLEAR ZONE.

④ SEE DETAILS FOR SUBGRADE DRAINAGE.

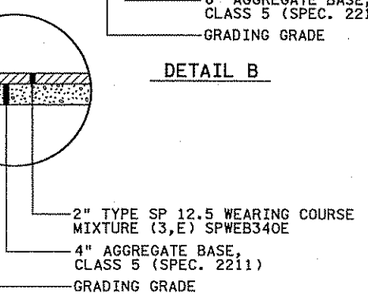
⑦ STA. 503+84.45-505+98.00 (NO CURB 12' TO EDGE OF PAVEMENT)

⑧ WEARING COURSE SHALL BE CONSTRUCTED IN TWO LIFTS.

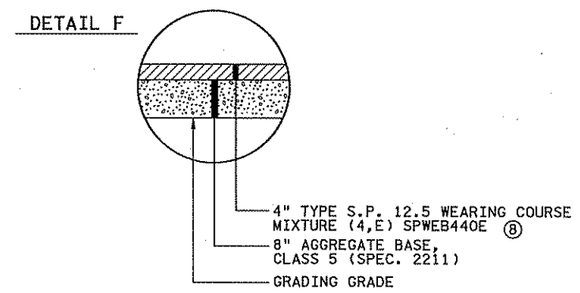


127TH STREET

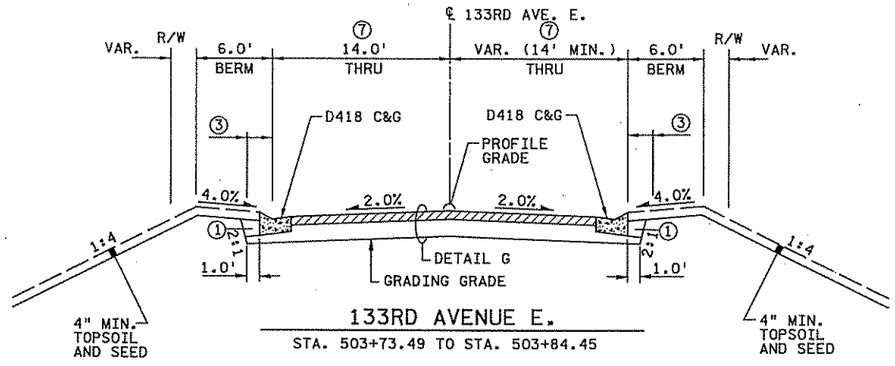
STA. 301+72.75 TO STA. 302+40.67
STA. 351+03.84 TO STA. 352+00.00



DETAIL F

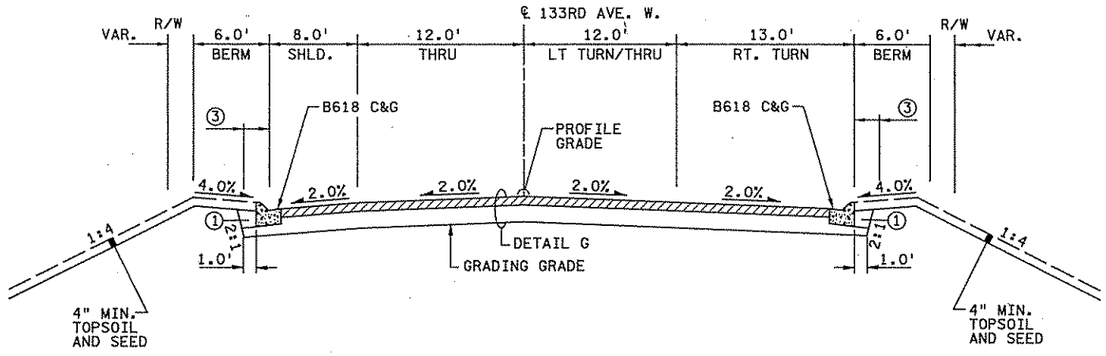


DETAIL G



133RD AVENUE E.

STA. 503+73.49 TO STA. 503+84.45



133RD AVENUE W.

STA. 501+91.46 TO STA. 502+31.76
STA. 503+73.49 TO STA. 505+98.00

NO	DATE	BY	CKD	APPR	REVISION
1	12/20/06	CMT	CMT	CMT	PAVEMENT DESIGN REVISION PER MN/DOT COMMENTS

...\5404\hl-mu\plan\5404.TSI

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: CHRIS M. TRBOYEVICH
Date 6/14/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

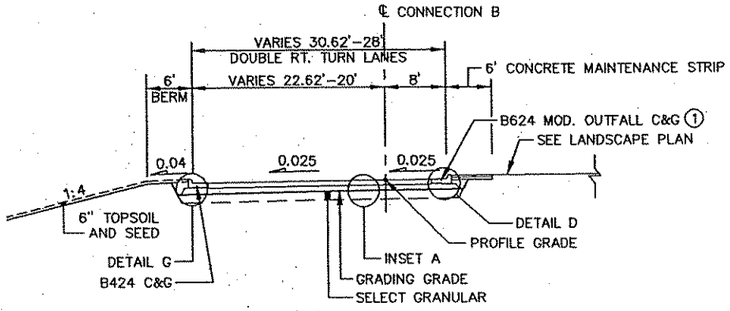
ANOKA COUNTY
TYPICAL SECTIONS
C.S.A.H. 78

SHEET 41 OF 400

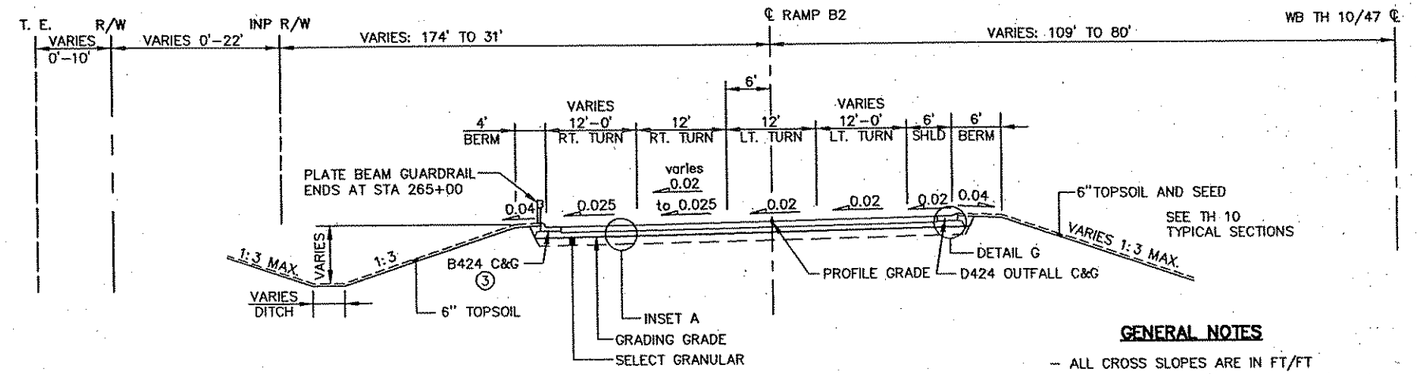
4:39:55 PM
6/14/2007
H:\projects\5404\hl-mu\plan\5404.TSI

Xref'd Drawings
HNSN-ALI
HNSN-PCD
REF-DWG-BD
22x34bdr

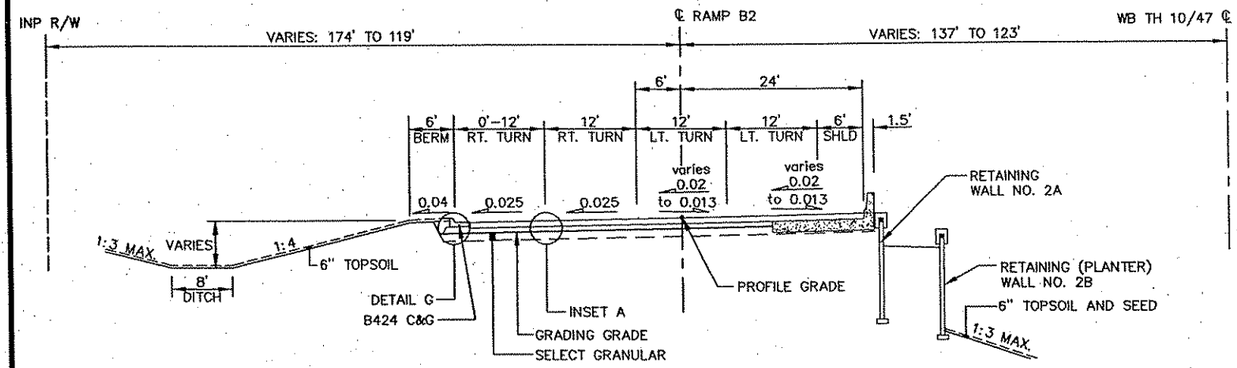
PROPOSED TYPICAL SECTION – CONNECTION B
STA. 753+37.39 TO STA. 755+88.18



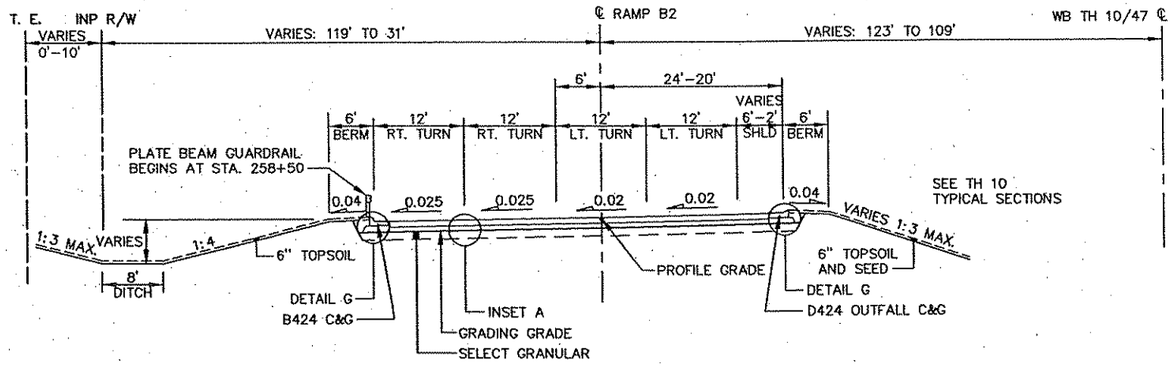
PROPOSED TYPICAL SECTION – RAMP B2 (FULL WIDTH)
STA. 259+20 (BEGIN LANE TAPER, LT.) TO STA. 261+58.25② (BEGIN LANE TAPER, RT.)



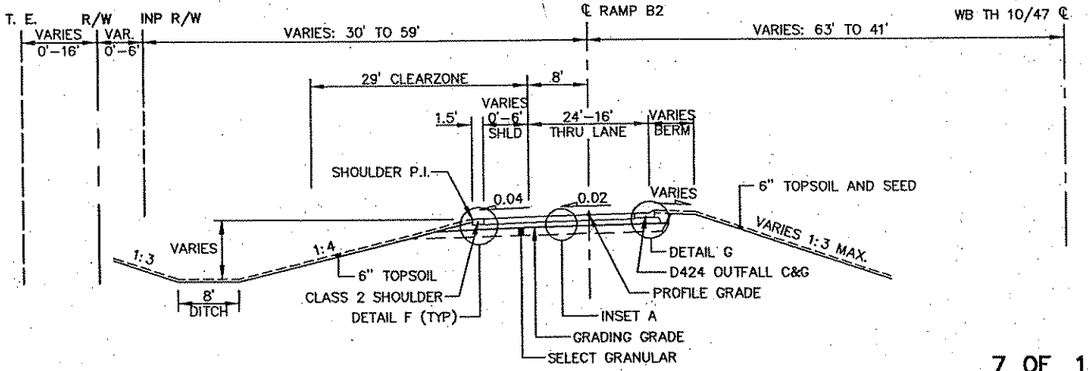
PROPOSED TYPICAL SECTION – RAMP B2 (FULL WIDTH)
STA. 255+88.18 TO STA. 257+96.84 (END WALL)



PROPOSED TYPICAL SECTION – RAMP B2 (FULL WIDTH)
STA. 257+96.84 (BEGIN D424 C&G, RT.) TO STA. 259+20 (BEGIN TAPER, LT.)



PROPOSED TYPICAL SECTION – RAMP B2
STA. 264+38.19② (BEGIN SHOULDER, LT.) TO STA. 270+24.33 (END RAMP)



GENERAL NOTES

– ALL CROSS SLOPES ARE IN FT/FT

– GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISH GRADE, UNLESS SPECIFIED OTHERWISE.

– ALL SECTIONS SHOWN ARE FOR NORMAL CROWN. FOR SUPERELEVATIONS SEE SUPERELEVATION PLANS.

– SEE SHEET 50 FOR MISCELLANEOUS DETAILS

NOTES

① B624 OUTFALL C&G
CONNECTION B STA. 753+70.38
TO STA. 755+10.42

② BEGIN 1:15 LANE TAPER, STA. 259+20, LT.
END 1:15 LANE TAPER, STA. 261+00, LT
BEGIN 1:15 LANE TAPER, STA. 261+58.25, RT.
END 1:15 LANE TAPER, STA. 263+38.25, RT.
BEGIN SHLD TAPER, STA. 264+98.38, LT.
END SHLD TAPER, STA. 265+88.39, LT.

③ END D424 C&G, LT.
RAMP B STA. 266+00

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: SAW | DWG. NAME: TYP07
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TYPICAL SECTIONS
RAMP B
RAMP B CONNECTION

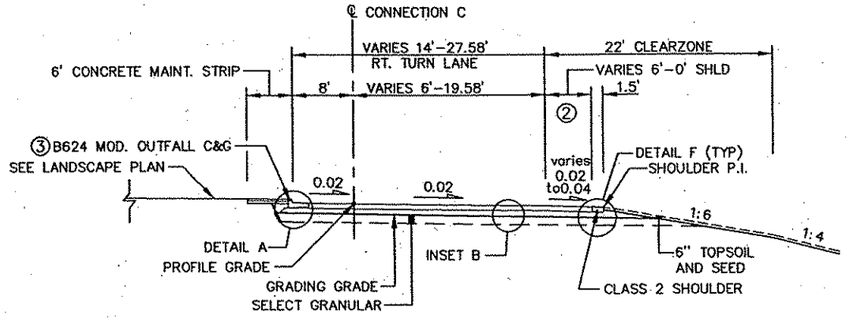
CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 43 / 681

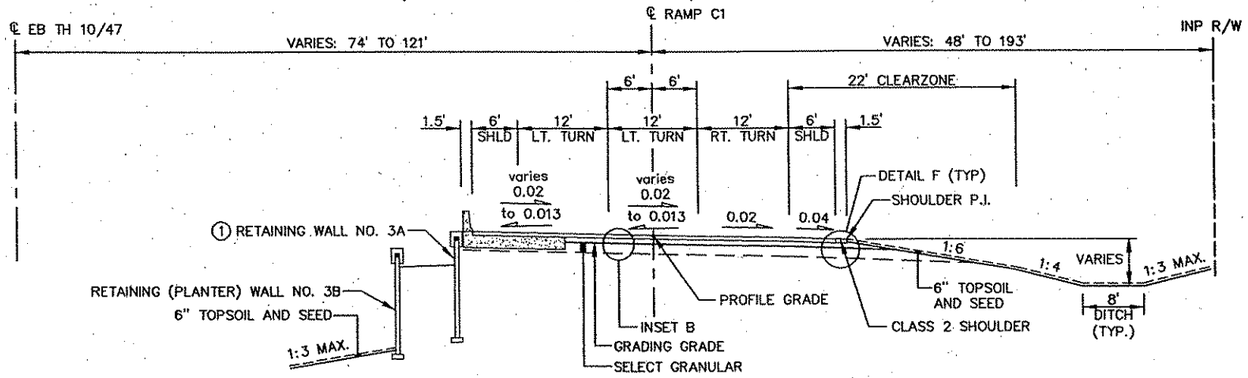
PLOT DATE: JAN. 07 10:19am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-T.dgn

Xref'd Drawings
HNSN-PCO
HNSN-ALI
REF-DWG-BD
22x34bdr

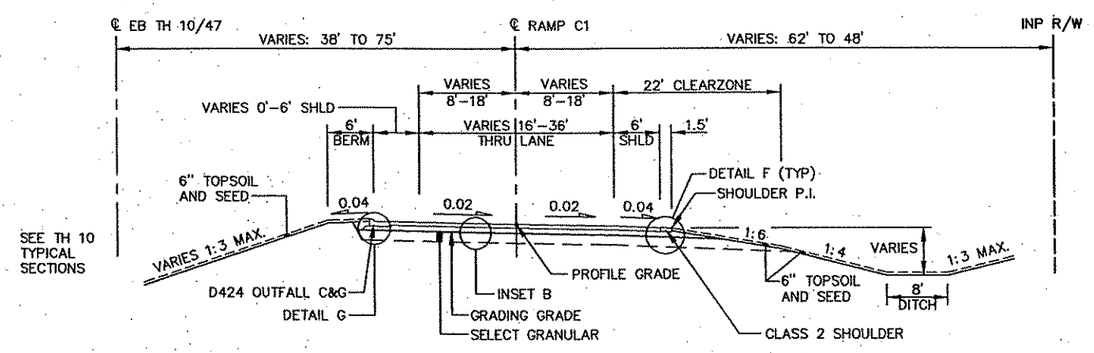
PROPOSED TYPICAL SECTION – CONNECTION C
STA. 850+52.40 TO STA. 853+10.75



PROPOSED TYPICAL SECTION – RAMP C1 (FULL WIDTH)
STA. 443+52.40 (END 1:15 TAPER, LT. & RT.) TO STA. 450+52.40 (END RAMP C1)



PROPOSED TYPICAL SECTION – RAMP C1 (FULL WIDTH)
STA. 438+44.93 (BEGIN RAMP) TO STA. 443+52.40 (END 1:15 TAPER, LT. & RT.)



GENERAL NOTES

- ALL CROSS SLOPES ARE IN FT/FT
- GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISH GRADE, UNLESS SPECIFIED OTHERWISE.
- ALL SECTIONS SHOWN ARE FOR NORMAL CROWN. FOR SUPERELEVATIONS SEE SUPERELEVATION PLANS.
- SEE SHEET 50 FOR MISCELLANEOUS DETAILS

NOTES

① END D424 C&G
BEGIN RETAINING WALL NO. 3A
RAMP C1 STA. 446+47.70, LT.

② END 6' SHLD.
BEGIN B624 C&G
CONNECTION C STA. 851+99.21, RT.

③ B624 OUTFALL C&G (CONCRETE ISLAND)
CONNECTION C STA. 851+30.17 TO STA. 852+60.68, LT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: SAW | DWG. NAME: TYP08
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TYPICAL SECTIONS
RAMP C
RAMP C CONNECTION

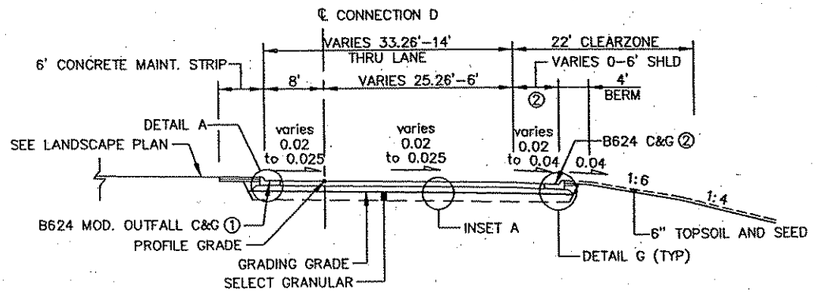
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 44 / 681

PLOT DATE: Jan 307 10:19am DISK FILE NAME: (16:1) R:\33889\338890042\PLAN-SHT\PRD-CONST\042-T

Xref'd Drawings
HNSN-ALI
HNSN-PCD
REF-DWG-BD
22x34bdr

PROPOSED TYPICAL SECTION – CONNECTION D
STA. 953+49.14 TO STA. 955+61.83



NOTES

① B624 OUTFALL C&G CONNECTION D STA. 953+82.86 TO STA. 954+85.68

② BEGIN 0'–6' SHLD. TRANSITION CONNECTION D STA. 954+29.42, RT.
END B624 C&G CONNECTION D STA. 955+59.38

③ 1:40 TAPER (12' TO 8')
RAMP D STA. 558+86.82 TO STA. 560+46.72

④ 1:30 TAPER (24' TO 14')
RAMP D STA. 555+61.82 TO STA. 558+62.02

⑤ D424 CURB & GUTTER
RAMP D STA. 560+50 TO STA. 570+75, RT.

⑥ B624 OUTFALL C&G, LT.
RAMP D STA. 561+89.87 TO STA. 573+89.32

⑦ 1:33.67 TAPER (14' TO 8')
RAMP D STA. 566+06.07 TO STA. 568+08.03

⑧ CONSTRUCT SWALE –SEE CROSS SECTIONS
RAMP D STA. 568+50 TO STA. 570+75

⑨ RAMP D STA. 563+00 TO STA. 570+75

⑩ RAMP D STA. 570+75 TO STA. 572+00

GENERAL NOTES

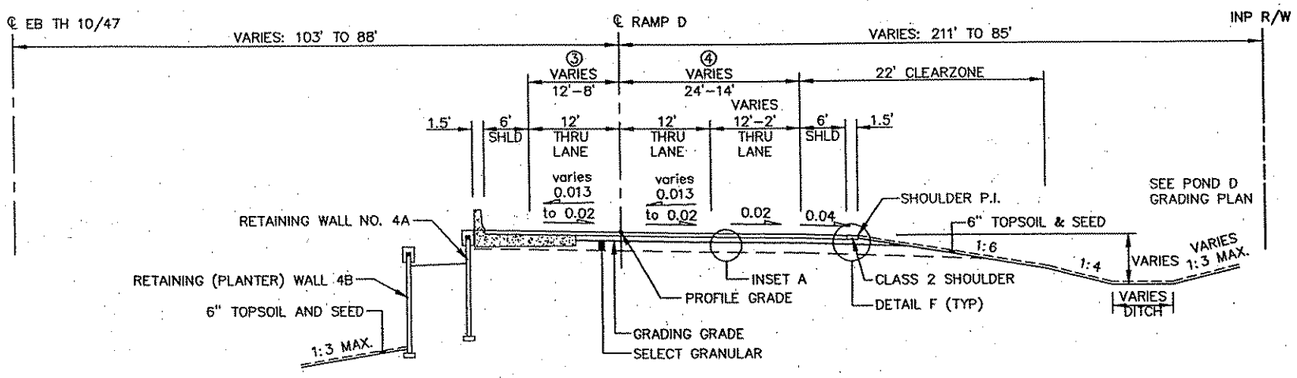
– ALL CROSS SLOPES ARE IN FT/FT

– GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISH GRADE, UNLESS SPECIFIED OTHERWISE.

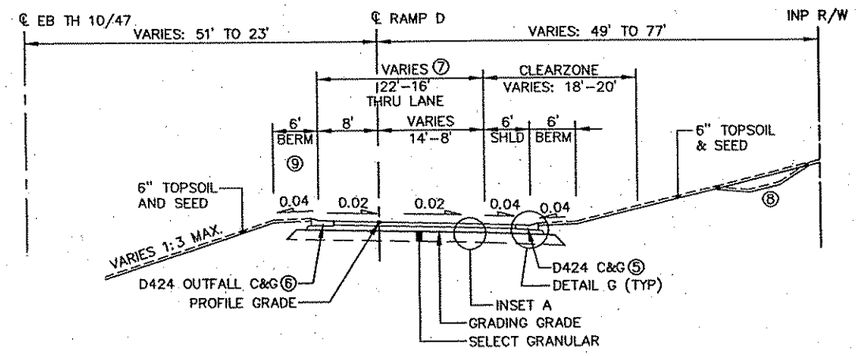
– ALL SECTIONS SHOWN ARE FOR NORMAL CROWN. FOR SUPERELEVATIONS SEE AND TRANSITIONS SEE SUPERELEVATION PLANS.

– SEE SHEET 50 FOR MISCELLANEOUS DETAILS

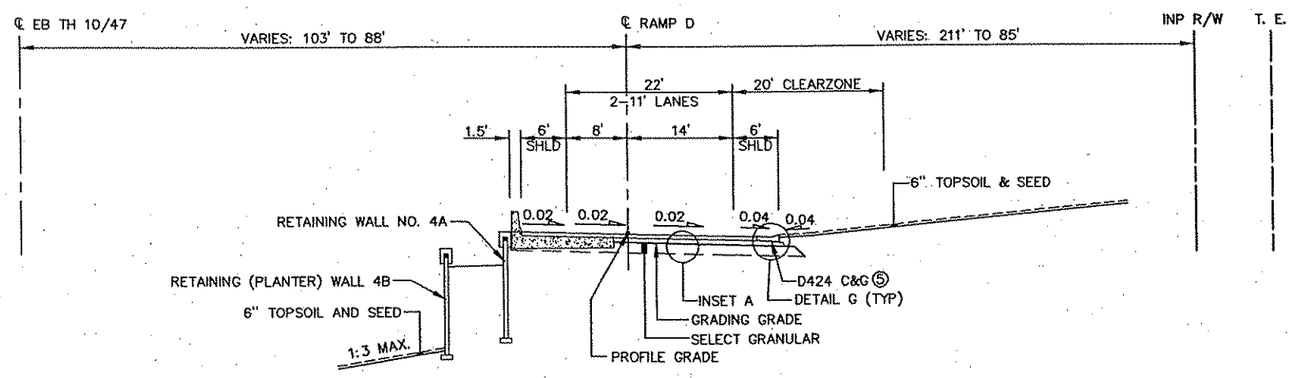
PROPOSED TYPICAL SECTION – RAMP D
STA. 555+61.83 (BEGIN RAMP) TO STA. 560+50.15 (BEGIN D424 C&G, RT.)



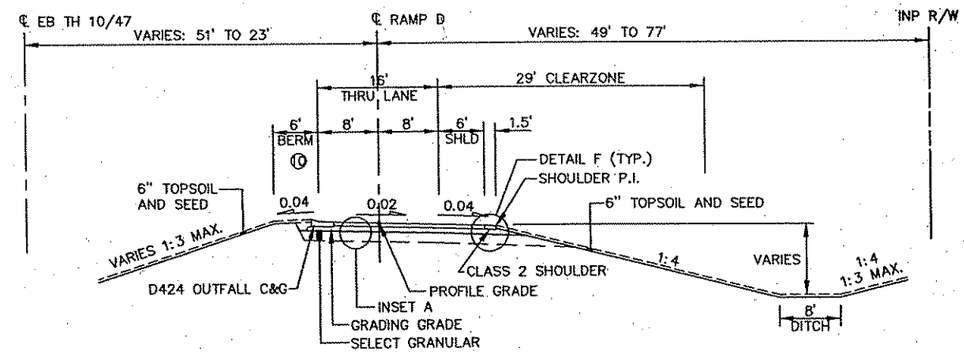
PROPOSED TYPICAL SECTION – RAMP D
STA. 561+89.87 (END RETAINING WALL 4A) TO STA. 570+75 (END D424 C&G, RT.)



PROPOSED TYPICAL SECTION – RAMP D
STA. 560+50.15 (BEGIN D424 C&G, RT.) TO STA. 561+89.87 (END RETAINING WALL NO. 4A)



PROPOSED TYPICAL SECTION – RAMP D
STA. 570+75 (END D424 C&G, RT.) TO STA. 573+89.32 (END RAMP)



9 OF 13

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: SAW | DWG. NAME: TYP09
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TYPICAL SECTIONS
RAMP D
RAMP D CONNECTION

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

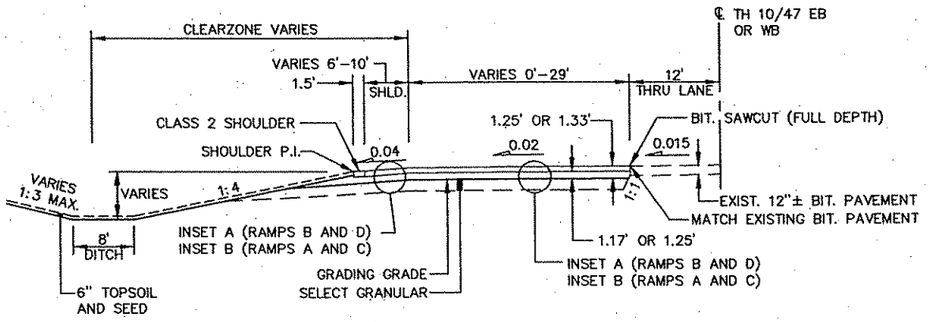
SHEET NO. 45 / 681

PLOT DATE: Jan .007 10:19am DISK FILE NAME: (16.1) R:\33889\338890042\PLAN-SHT\PRD-CONST\042-Th

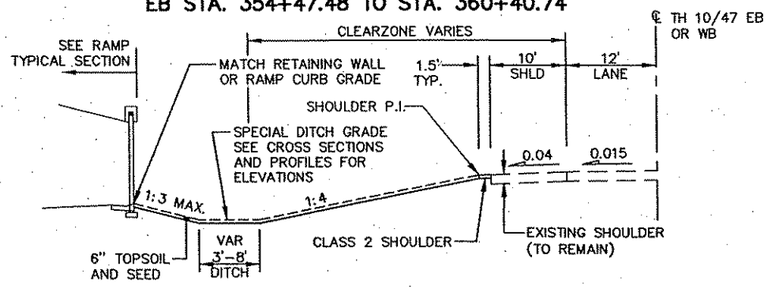
Xref'd Drawings
HNSN-ALI
HNSN-PCO
REF-DWG-BDR
22x34bdr

TH 10/47 ACCELERATION LANE WIDENING
TH 10/47 WB STA. 327+36.31 TO STA. 338+68.79 (RAMP A)
TH 10/47 EB STA. 373+87.12 TO STA. 386+20.49 (RAMP D)

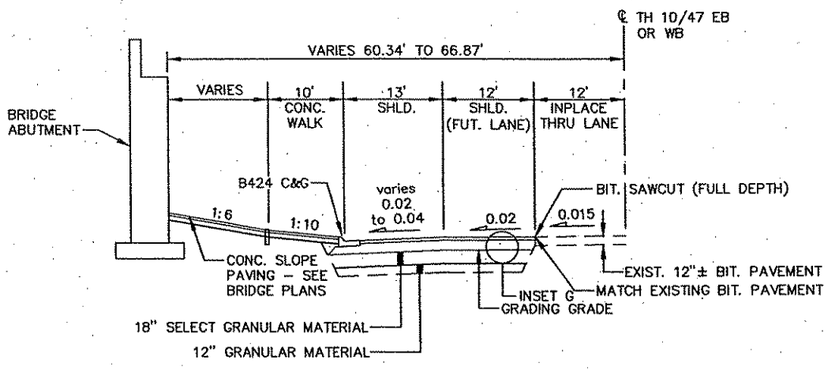
TH 10/47 DECELERATION LANE WIDENING
TH 10/47 WB STA. 370+25.18 TO STA. 376+46.84 (RAMP B)
TH 10/47 EB STA. 332+29.07 TO STA. 338+44.10 (RAMP C)



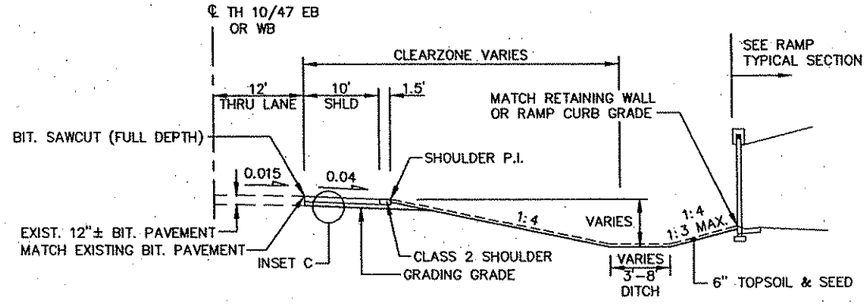
SPECIAL DITCH CONSTRUCTION – EXISTING BITUMINOUS SHOULDER
TH 10/47 WB STA. 345+94.48 TO STA. 351+88.93
WB STA. 354+56.43 TO STA. 361+59.74
TH 10/47 EB STA. 344+62.26 TO STA. 351+65.89
EB STA. 354+47.48 TO STA. 360+40.74



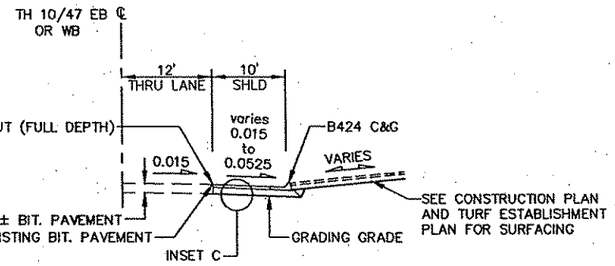
TH 10/47 OUTSIDE SHOULDER CONSTRUCTION
TH 10/47 WB STA 351+86.93 TO 354+58.39
TH 10/47 EB STA 351+63.89 TO 354+49.48



TH 10/47 OUTSIDE SHOULDER RECONSTRUCTION – RURAL SECTION
WB STA. 339+70 TO STA. 345+94.48
WB STA. 361+59.74 TO STA. 367+50
EB STA. 339+50 TO STA. 344+62.26
EB STA. 360+40.74 TO STA. 370+00



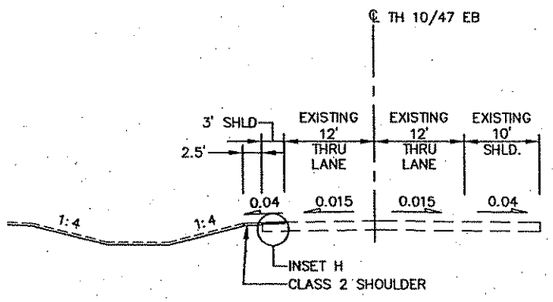
TH 10/47 OUTSIDE SHOULDER RECONSTRUCTION – URBAN SECTION
WB STA. 338+68.79 TO STA. 339+70
WB STA. 367+50 TO STA. 370+25.18
EB STA. 338+44.10 TO STA. 339+50
EB STA. 370+00 TO STA. 373+87.12



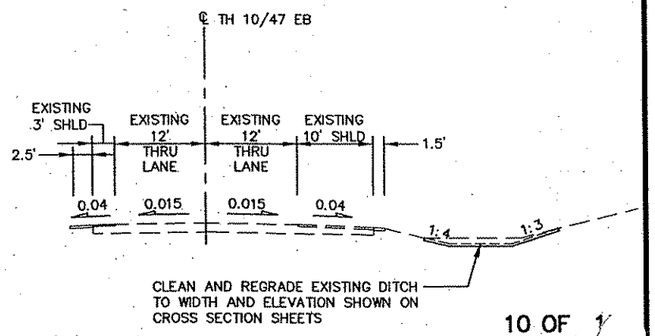
GENERAL NOTES

- ALL CROSS SLOPES ARE IN FT/FT
- GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISH GRADE, UNLESS SPECIFIED OTHERWISE.
- ALL SECTIONS SHOWN ARE FOR NORMAL CROWN. FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLANS.
- SEE SHEET 50 FOR MISCELLANEOUS DETAILS.

TH 10/47 INSIDE SHOULDER RECONSTRUCTION
EB STA. 327+00 TO STA. 387+00



TH 10/47 OUTSIDE DITCH CLEANING
EB STA. 386+20.49 TO STA 392+22.83



10 OF 1

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: SAW | DWG. NAME: TYP10
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TYPICAL SECTIONS
T.H. 10/47

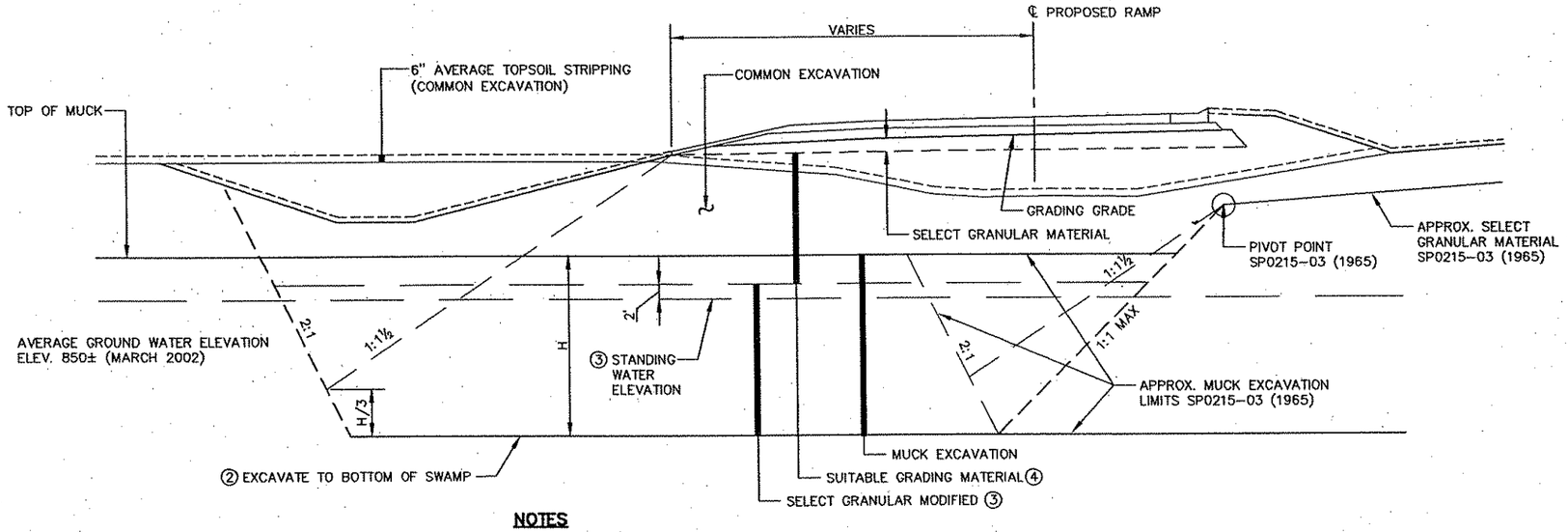
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 46 / 681

PLOT DATE: Jan 9, 2007 10:19am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-T

Xref'd Drawings
REF-DWG-BDR
22x34bdr

MUCK EXCAVATION



NOTES

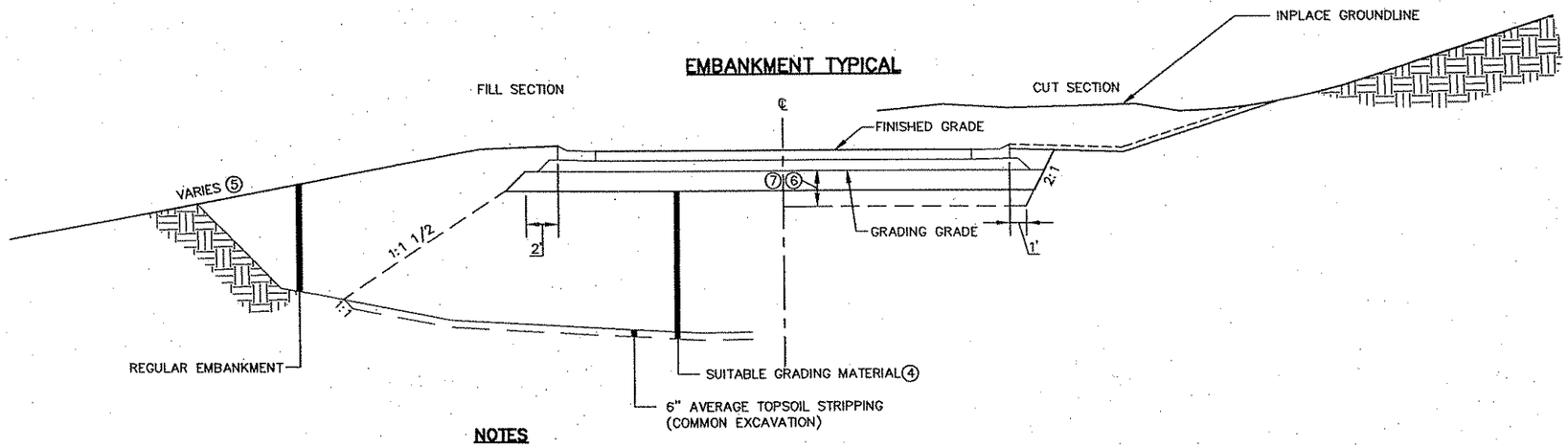
① TYPICAL MUCK EXCAVATION SHOWN FOR TH 10/47 RAMPS. SLOPES FOR MUCK EXCAVATION ON OTHER ROADWAY SEGMENTS SHALL BE THE SAME AS SHOWN ABOVE.

② SEE PROFILES AND CROSS SECTIONS FOR APPROXIMATE MUCK EXCAVATION DEPTH.

③ BACKFILL WITH SELECT GRANULAR MODIFIED TO LOCAL WATER LEVEL PLUS 2.0'. IN SWAMP AREAS, EXCAVATION DEWATERING SHALL BE PERFORMED TO ALLOW COMPLETE OBSERVATION OF THE SOILS EXPOSED IN THE EXCAVATION BOTTOM. IN THE EVENT THE CONTRACTOR HAS MADE EVERY ATTEMPT TO ACHIEVE COMPLETE DEWATERING OF THE EXCAVATION AND THE CONTRACTOR IS UNSUCCESSFUL IN ACHIEVEING COMPLETE DEWATERING, THE CONTRACTOR SHALL BACKFILL THE WET AREAS WITH SELECT GRANULAR MODIFIED TO A DEPTH 2 FEET ABOVE THE STANDING WATER LEVEL. THE PLANS AND TABULATIONS INDICATE ASSUMED QUANTITIES FOR SELECT GRANULAR MODIFIED BASED ON ASSUMED HIGH WATER LEVELS. THIS DOES NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLETELY DEWATER THE SWAMP EXCAVATIONS TO THE BOTTOM OF THE EXCAVATION. IT IS ESSENTIAL THAT THE BOTTOM OF ALL SWAMP EXCAVATIONS CAN BE OBSERVED TO CONFIRM THAT ALL ORGANIC SOILS HAVE BEEN REMOVED.

④ THE UPPER 28" TO 34" BELOW THE SELECT GRANULAR LAYER SHALL BE GRANULAR MATERIAL MEETING MNDOT 3149.2B1.

EMBANKMENT TYPICAL



NOTES

⑤ SEE CROSS SECTIONS FOR APPROPRIATE SLOPE RATIO.

⑥ FILL WITH SELECT GRADING MATERIAL OF WHICH THE UPPER 14" TO 20" SHALL BE SELECT GRANULAR MATERIAL, REFER TO SUBGRADE EXCAVATION TAB FOR DEPTH AND LOCATION.

⑦ SEE BRIDGE APPROACH TREATMENT PLAN FOR LOCATION AND LIMITS OF MATERIAL ADJACENT TO BRIDGE.

EMBANKMENT CONSTRUCTION

ROADWAY	STATION TO STATION	SELECT GRANULAR DEPTH
HANSON BLVD. SOUTH	3+92 TO 13+41	14"
HANSON BLVD. NORTH	15+32 TO 32+89	20"
RAMP A	136+63 TO 152+36	15"
RAMP B2	255+48 TO 270+24	14"
RAMP C1	438+45 TO 450+52	15"
RAMP D	554+13 TO 573+89	14"
NORTHDALE BLVD.	0+60 TO 16+00	14"
TH 10/47 WB ACCELERATION LANE	327+36 TO 336+62	15"
TH 10/47 WB DECELERATION LANE	370+24 TO 376+46	14"
TH 10/47 EB DECELERATION LANE	332+29 TO 338+44	15"
TH 10/47 EB ACCELERATION LANE	373+87 TO 386+20	14"
RAMP B1	254+37 TO 225+88	14"
RAMP C2	450+52 TO 452+12	15"
CONNECTION A	650+74 TO 652+91	15"
CONNECTION B	753+37 TO 775+88	14"
CONNECTION C	850+52 TO 853+11	15"
CONNECTION D	953+49 TO 955+62	14"

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: TYP11
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

TYPICAL SECTIONS

MUCK EXCAVATION TYPICAL
EMBANKMENT TYPICAL

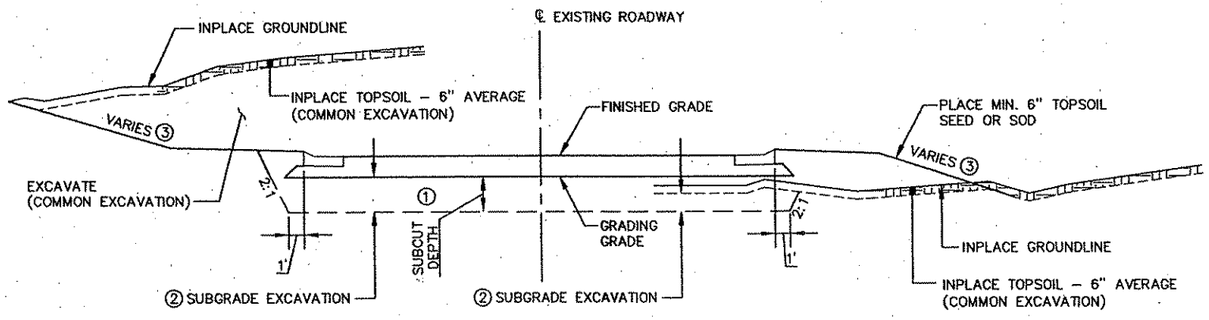
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 47 / 681

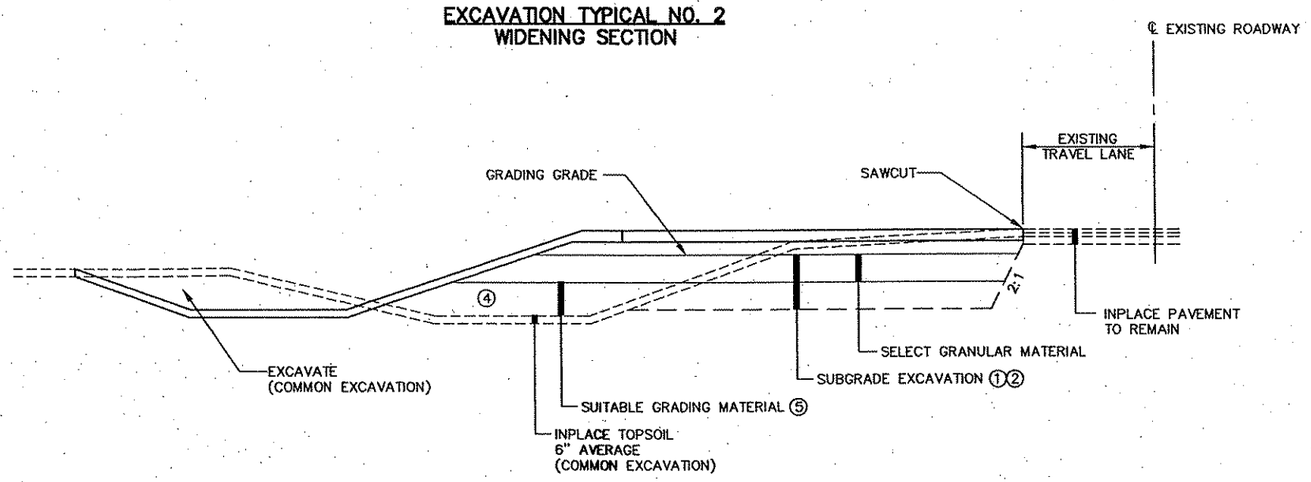
PLOT DATE: Jan 2007 10:19am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-TYP3

Xref'd Drawings
REF-DWG-BDR
22x34bdr

EXCAVATION TYPICAL NO. 1
FULL WIDTH CONSTRUCTION



EXCAVATION TYPICAL NO. 2
WIDENING SECTION



SUBGRADE EXCAVATION

ROADWAY	STATION TO STATION	SUBCUT DEPTH
TH 10/47 WB ACCELERATION LANE	327+36 TO 336+62	27"
TH 10/47 WB – UNDER BRIDGE	351+87 TO 354+58	30"
TH 10/47 WB DECELERATION LANE	370+24 TO 376+46	26"
TH 10/47 EB DECELERATION LANE	332+29 TO 338+45	27"
TH 10/47 EB – UNDER BRIDGE	351+64 TO 354+49	30"
TH 10/47 EB ACCELERATION LANE	373+87 TO 386+20	26"
NORTHDALE BLVD.	0+60 TO 16+00	26"
RAMP A	136+63 TO 142+50	27"
RAMP B2	261+50 TO 269+00	26"
RAMP C1	438+45 TO 440+00	27"
RAMP D	572+00 TO 573+89	26"
HANSON BLVD. NORTH BOUND	4+35 TO 12+65	26"
HANSON BLVD. NORTH BOUND	19+11 TO 32+95	32"
HANSON BLVD. SOUTH BOUND	4+41 TO 12+65	26"
HANSON BLVD. SOUTH BOUND	18+58 TO 32+70	32"

NOTES:

① FOR SUBCUT DEPTHS AT SPECIFIED ROADWAYS, SEE TABULATION THIS SHEET.

② PROVIDE 1:20 TAPERS TO TRANSITION SUBCUTS TO STATION LIMITS SHOWN. SEE PROFILE SHEETS.

③ SEE CROSS SECTIONS FOR APPROPRIATE SLOPE RATIO.

④ NORTHDALE BOULEVARD STATION 7+50 TO 12+50 LT. BACKFILL WITH SALVAGED LIGHTWEIGHT MATERIAL.

⑤ THE UPPER 28" TO 34" BELOW THE SELECT GRANULAR LAYER SHALL BE GRANULAR MATERIAL MEETING MNDOT 3149.281.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: TYP12
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

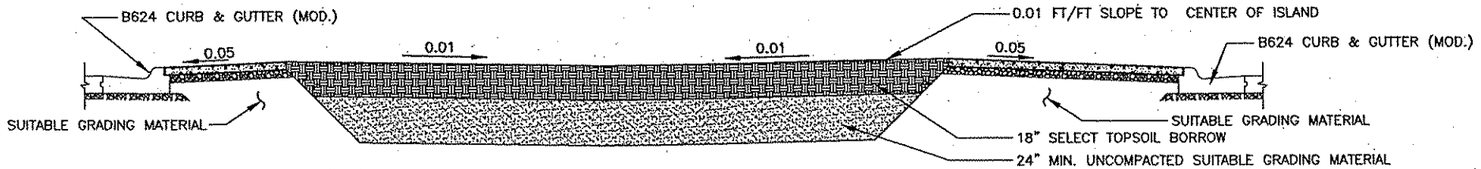
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TYPICAL SECTIONS
EXCAVATION TYPICALS

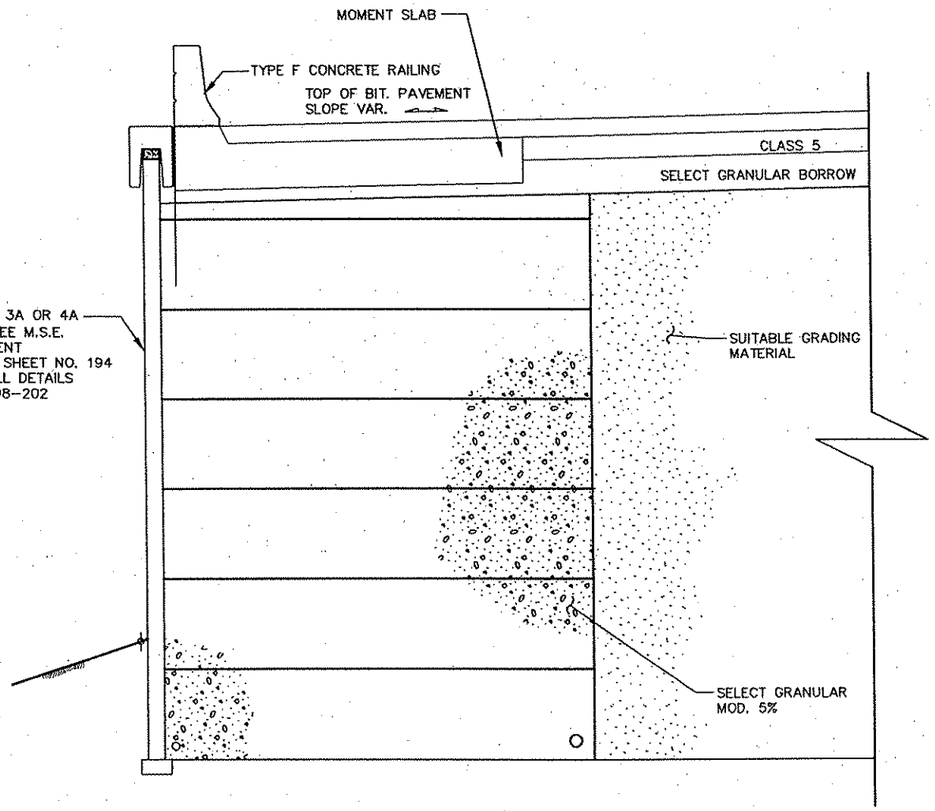
CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

PLOT DATE: Jan 307 10:19am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-T

Xref'd Drawings
REF-DWG-BD
22x34bdr



INTERCHANGE ISLAND BACKFILL DETAIL



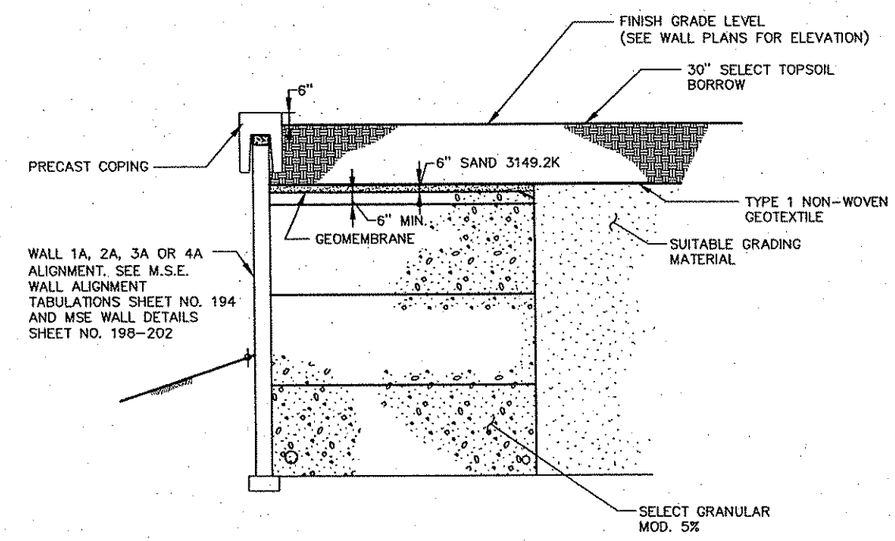
MSE WALL BACKFILL TYPICAL SECTION
SECTION THRU MSE WALL 1A, 2A, 3A, & 4A

M.S.E. RETAINING WALL NOTES:

1.) EXACT LIMITS OF 5% MODIFIED SELECT GRANULAR SHALL BE DESIGNED BY THE CONTRACTOR.

2.) SEE RETAINING WALL PLANS AND DETAILS AND MOMENT SLAB DETAILS FOR ADDITIONAL INFORMATION.

3.) GEOMEMBRANE AND GEOTEXTILE TO BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS. GEOMEMBRANE AND GEOTEXTILE SHALL BE CONSIDERED INCIDENTAL TO THE MECHANICAL STABILIZED EARTH WALL.



MSE WALL PLANTING AREA TYPICAL SECTION
SECTION THRU MSE WALL 1B, 2B, 3B, & 4B

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: TYP13
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

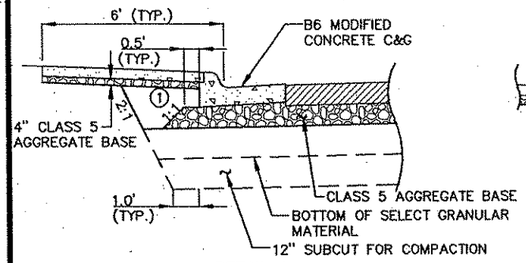
TH 10/HANSON BOULEVARD INTERCHANGE

TYPICAL SECTIONS
EMBANKMENT DETAILS

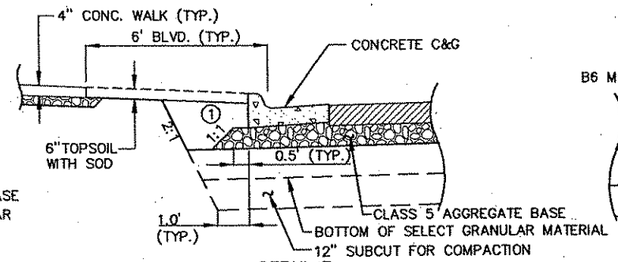
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 49 / 681

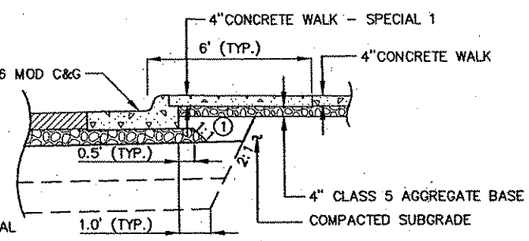
PLOT DATE: Jan 07 10:19am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-TY



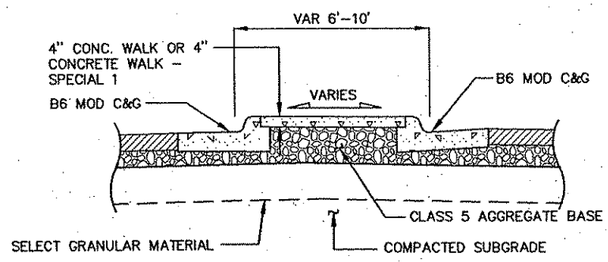
DETAIL A
B6 CURB & GUTTER AT
CONCRETE MAINTENANCE STRIP



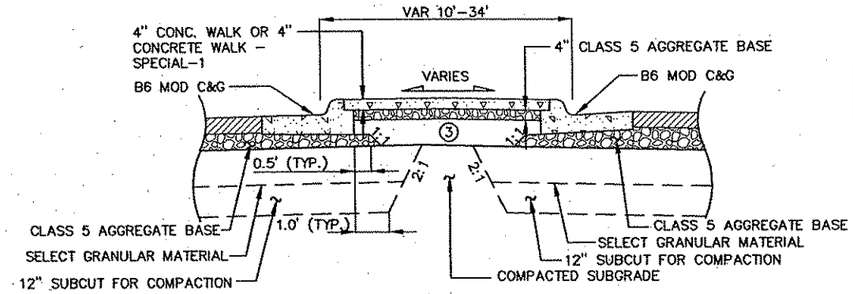
DETAIL B
B6 CURB & GUTTER AT
GRASS BOULEVARD – CSAH 11



DETAIL C
B6 CURB & GUTTER AT
CONCRETE BOULEVARD

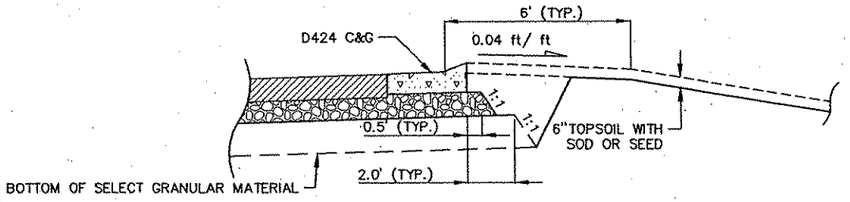


NARROW MEDIAN

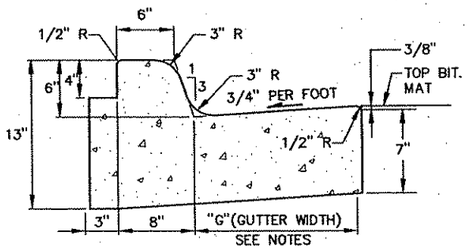


WIDE MEDIAN

DETAIL D
B6 CURB & GUTTER AT
4" CONCRETE MEDIAN

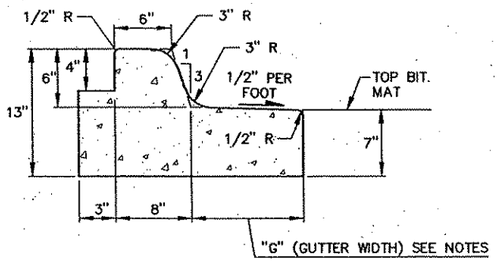


DETAIL G
CURB AND GUTTER AT
GRASS BERM – RAMPS



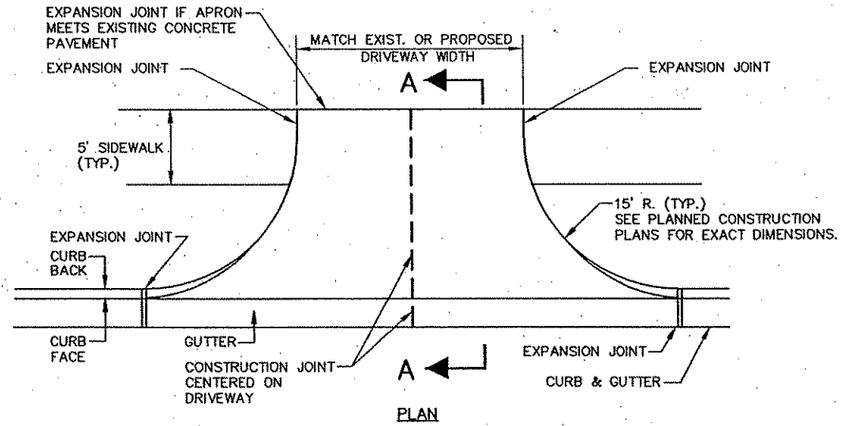
1. "G"=12" FOR B612 MODIFIED CONCRETE CURB & GUTTER.
2. "G"=18" FOR B618 MODIFIED CONCRETE CURB & GUTTER.
3. "G"=24" FOR B624 MODIFIED CONCRETE CURB & GUTTER.

DETAIL H
B6 MODIFIED CURB & GUTTER
N.T.S.

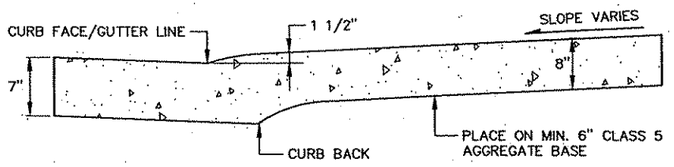


1. "G"=12" FOR B612 MODIFIED CONCRETE CURB & GUTTER.
2. "G"=18" FOR B618 MODIFIED CONCRETE CURB & GUTTER.
3. "G"=24" FOR B624 MODIFIED CONCRETE CURB & GUTTER.

DETAIL I
B6 MODIFIED OUTFALL CURB & GUTTER
N.T.S.



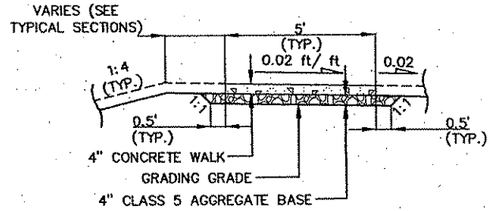
PLAN



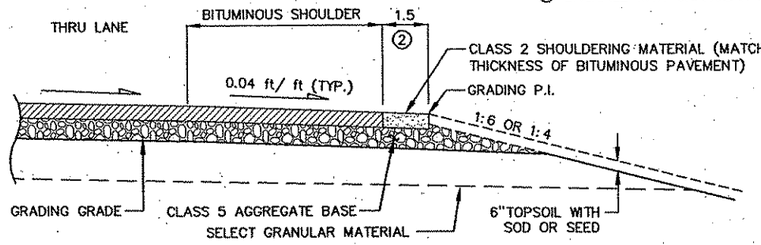
NOTE: PAID FOR AS 8" CONCRETE DRIVEWAY PAVEMENT (APRON)

SECTION A–A

DETAIL J
COMMERCIAL DRIVEWAY APRON
N.T.S.



DETAIL E
4 " CONCRETE SIDEWALK



DETAIL F
CLASS 2 SHOULDER

GENERAL NOTES

- ALL CROSS SLOPES ARE IN FT/FT
- GRADING GRADE CROSS SLOPES WILL THE SAME AS FINISH GRADE, UNLESS SPECIFIED OTHERWISE.
- ALL SECTIONS SHOWN ARE FOR NORMAL CROWN. FOR SUPERELEVATIONS SEE SUPERELEVATION PLANS.

NOTES

1. BACK FILL WITH SUITABLE GRADING MATERIAL.
2. 2.5'–TH. 10 INSIDE SHOULDER.
3. BACKFILL WITH GRANULAR MATERIAL.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: TJS
CHKED. BY: SAW | DWG. NAME: DETAIL01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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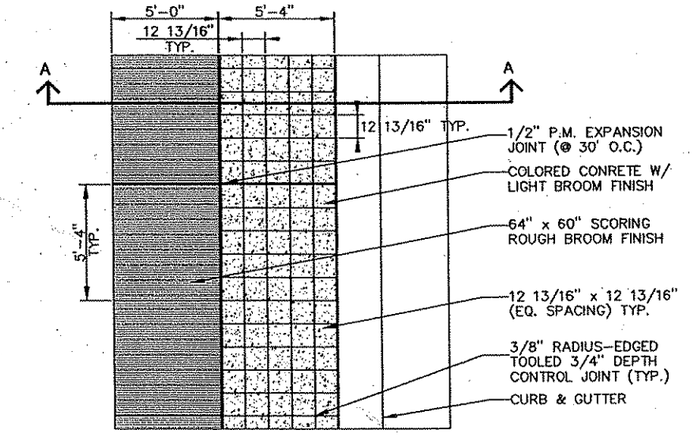
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

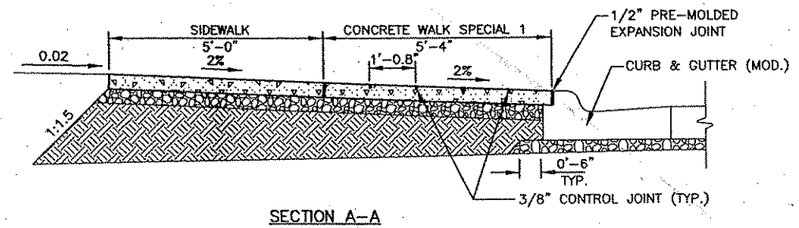
TH 10/HANSON BOULEVARD INTERCHANGE
MISCELLANEOUS DETAILS

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 50 / 681

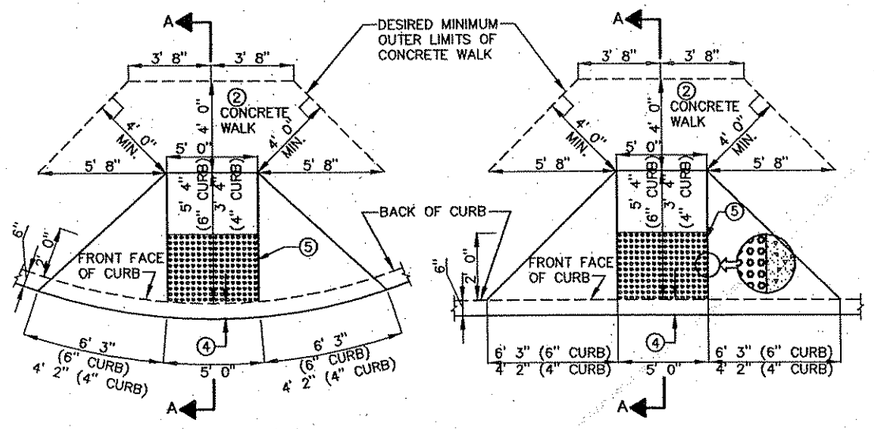
PLOT DATE: Jan 007 10:04am DISK FILE NAME: (16.1) R:\33889\33688942\PLAN-SHT\PRD-CONST\042-DI.dwg





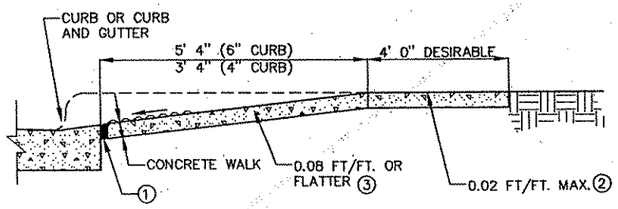
SECTION A-A

4" CONCRETE WALK SPECIAL 1

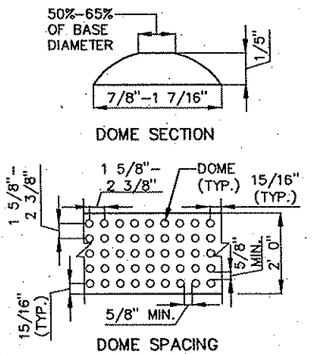


PLAN VIEW OF DIAGONAL RAMP

PLAN VIEW OF PERPENDICULAR RAMP

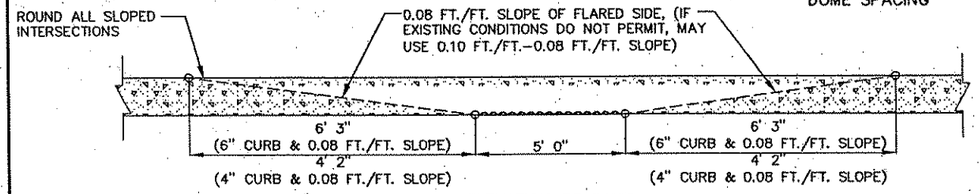


SECTION A-A



DOME SECTION

DOME SPACING



ELEVATION OF RAMP

DETAIL

TRUNCATED DOME PEDESTRIAN CURB RAMP

NOTES: THE CURB AND CURB TRANSITION ON THE RAMP WILL BE PAID FOR AS LINEAR FEET OF CONCRETE CURB OR CONCRETE CURB AND GUTTER. THE RAMP AREA WILL BE PAID FOR AS 4" CONCRETE WALK. THE TRUNCATED DOME AREA SHALL BE PAID FOR PER SQUARE FOOT OF TRUNCATED DOME SURFACE INSTALLED.

① ½ INCH PREFORMED JOINT FILLER MATERIAL, AASHTO M 213.

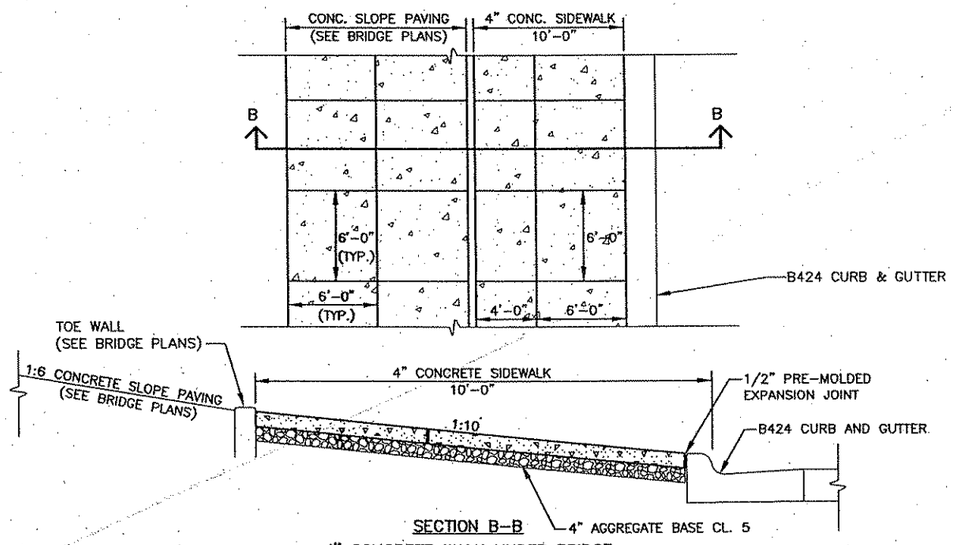
② WHEN POSSIBLE, PROVIDE A PATH OF TRAVEL 4' 0" WIDE BEHIND THE PEDESTRIAN RAMP. A RELATIVELY FLAT 4' 0"x4' 0" LANDING WILL ALLOW WHEELCHAIRS TO NAVIGATE AROUND THE PEDESTRIAN RAMP.

③ WHEN A MEDIAN IS NOT WIDE ENOUGH FOR TWO PEDESTRIAN RAMPS AND A 48" LANDING BETWEEN THEM, THE PEDESTRIAN CROSSING SHALL BE CUT THROUGH THE MEDIAN AT STREET LEVEL.

④ 6" TO 8" IS THE REQUIRED OFFSET OF THE DETECTABLE WARNINGS/ TRUNCATED DOME AREA FROM THE FRONT FACE OF CURB, OR PLACE THE DETECTABLE WARNINGS AT THE BACK OF CURB.

⑤ ADA REQUIRED TRUNCATED DOME AREA SHALL BE 2' 0" MIN. IN DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH (5'0") OF THE CURB RAMP. THIS 2' 0" BY 5' 0" WIDTH (TYP.) TRUNCATED DOME AREA SHALL CONTRAST VISUALLY WITH THE ADJACENT WALKING SURFACE. THE ENTIRE TRUNCATED DOME AREA SHALL BE A LIGHT COLOR (LIGHT GRAY, WHITE, OR YELLOW) WHEN THE ADJACENT SIDEWALK IS A DARK COLOR. THE ENTIRE TRUNCATED DOME AREA SHALL BE A DARK COLOR (RED, BLACK, DARK GRAY, OR BRIGHT YELLOW) WHEN THE ADJACENT SIDEWALK IS A "WHITE" OR LIGHT GRAY CEMENT COLOR.

✺ THE TRUNCATED DOME AREA FOR THIS PROJECT SHALL BE "MESABI BLACK" GRANITE OR APPROVED EQUAL.



SECTION B-B

4" CONCRETE WALK UNDER BRIDGE

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042

DRAWN BY: ELJ | DESIGN BY: TPH

CHKED. BY: SAW | DWG. NAME: DETAIL02

DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

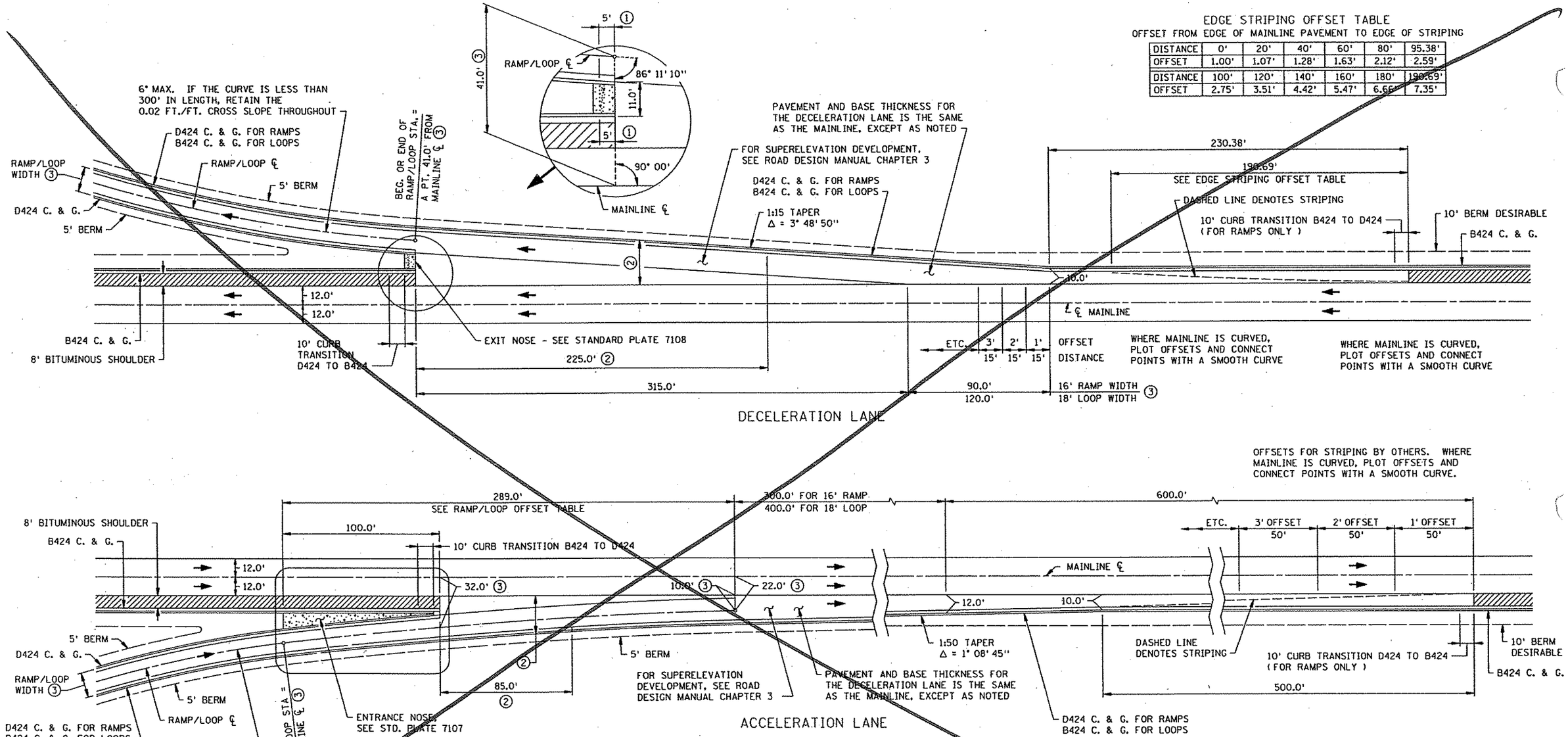
TH 10/HANSON BOULEVARD INTERCHANGE

MISCELLANEOUS DETAILS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 51 / 681

PLOT DATE: Jan .007 10:04am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-DI .dwg



EDGE STRIPING OFFSET TABLE

OFFSET FROM EDGE OF MAINLINE PAVEMENT TO EDGE OF STRIPING

DISTANCE	0'	20'	40'	60'	80'	95.38'
OFFSET	1.00'	1.07'	1.28'	1.63'	2.12'	2.59'
DISTANCE	100'	120'	140'	160'	180'	190.69'
OFFSET	2.75'	3.51'	4.42'	5.47'	6.66'	7.35'

16 FT. GUTTER TO GUTTER RAMP/LOOP OFFSET TABLE FOR APPROX. 2° CURVE ③

OFFSET FROM MAINLINE ℄ TO RAMP/LOOP ℄

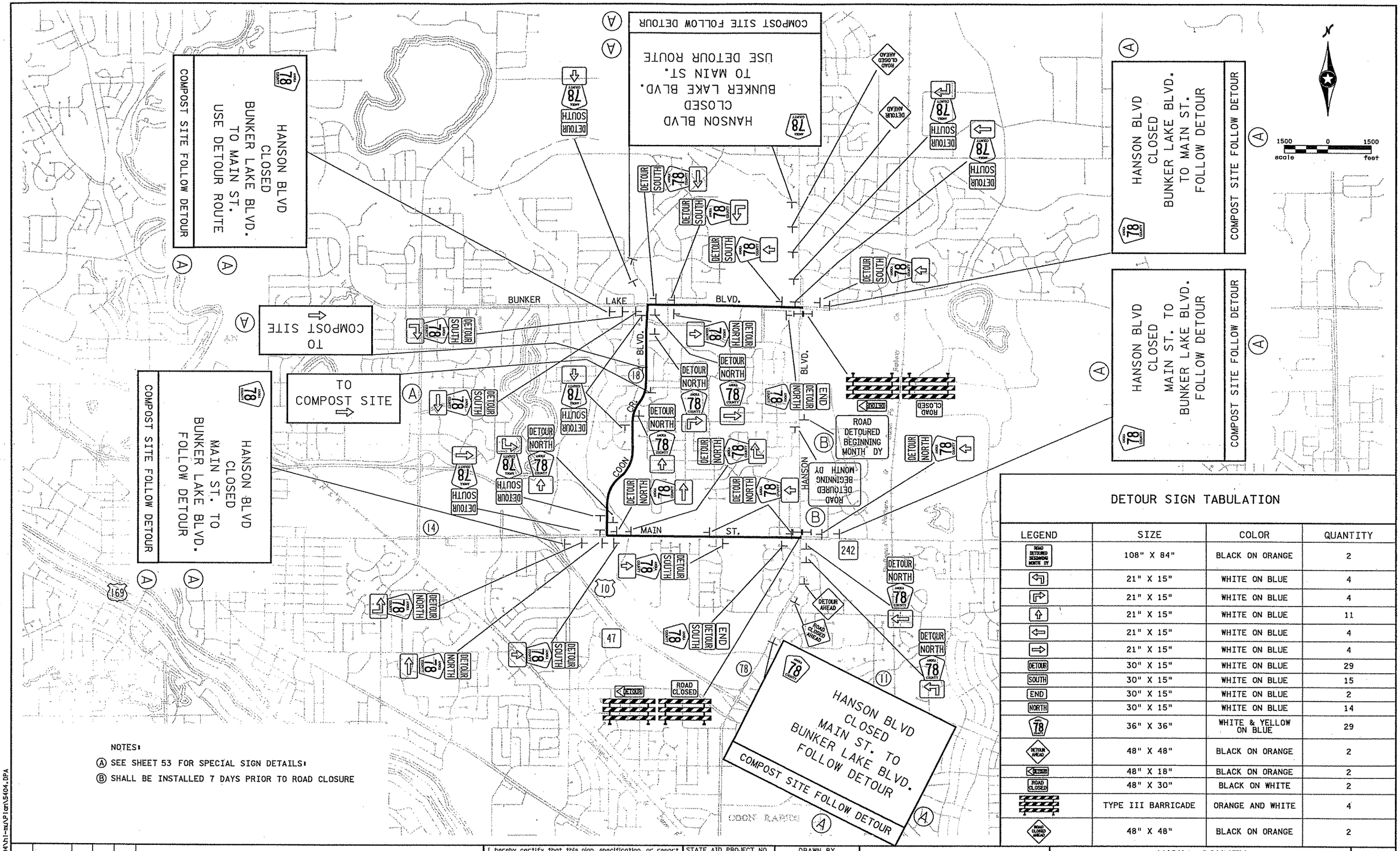
DISTANCE	0'	20'	40'	60'	80'	100'	120'	140'	160'
OFFSET	22.00'	22.47'	23.08'	23.83'	24.72'	25.75'	26.91'	28.22'	29.67'
DISTANCE	180'	189'	200'	220'	240'	260'	280'	289'	
OFFSET	31.26'	32.00'	32.99'	34.86'	36.87'	39.02'	41.32'	42.41'	

NOTES:

1. WHEN CONSTRUCTING D424 CURB & GUTTER, SLOPE FROM 0" TO 4" D CURB.
2. THE AREA SHOWN SHALL BE GRADED FOR MAINLINE DEPTH. RAMP PAVEMENT THICKNESS WILL BE USED, WITH ADDITIONAL DEPTH CORRECTED IN THE AGGREGATE BASE OR GRADING MATERIAL DEPENDING ON SURFACING TYPE.
3. WHEN IT IS NECESSARY FOR RAMPS/LOOPS TO BE WIDER, SEE ROAD DESIGN MANUAL CHAPTER 6. WIDENING SHALL BE DONE ON THE OUTSIDE AND THE TAPER LENGTH INCREASED ACCORDINGLY.

STANDARD SHEET NO. 5-297.108	STANDARD ACCELERATION AND DECELERATION LANES (URBAN) BITUMINOUS PAVEMENT
STANDARD APPROVED: JULY 30, 1991	
REVISION DATE 4-26-2001	STATE PROJ. NO. 0215-59 (T.H. 10) SHEET NO. 52 OF 681 SHEETS

0108/2007 FILE NAME S10 :25 PM PN R:\03389\03389042\PLAN-SHT\MNDOT-STD\S108g91.spn



NOTES:

Ⓐ SEE SHEET 53 FOR SPECIAL SIGN DETAILS:

Ⓑ SHALL BE INSTALLED 7 DAYS PRIOR TO ROAD CLOSURE

DETOUR SIGN TABULATION

LEGEND	SIZE	COLOR	QUANTITY
ROAD DETOURED BEGINNING MONTH DY	108" X 84"	BLACK ON ORANGE	2
	21" X 15"	WHITE ON BLUE	4
	21" X 15"	WHITE ON BLUE	4
	21" X 15"	WHITE ON BLUE	11
	21" X 15"	WHITE ON BLUE	4
	21" X 15"	WHITE ON BLUE	4
DETOUR	30" X 15"	WHITE ON BLUE	29
SOUTH	30" X 15"	WHITE ON BLUE	15
END	30" X 15"	WHITE ON BLUE	2
NORTH	30" X 15"	WHITE ON BLUE	14
78	36" X 36"	WHITE & YELLOW ON BLUE	29
DETOUR AHEAD	48" X 48"	BLACK ON ORANGE	2
DETOUR	48" X 18"	BLACK ON ORANGE	2
ROAD CLOSED	48" X 30"	BLACK ON WHITE	2
	TYPE III BARRICADE	ORANGE AND WHITE	4
ROAD CLOSED AHEAD	48" X 48"	BLACK ON ORANGE	2

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	DETOUR PLAN REVISIONS PER ANOKA COUNTY COMMENTS
					...\5404\hl-mu\Plan\5404.DPA

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: CHRIS M. TRBOYEVICH
Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	J. TOULOUSE
CHECKED BY	C.TRBOYEVICH
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

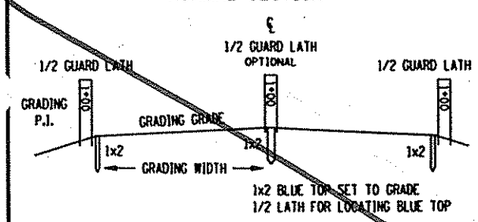
ANOKA COUNTY
DETOUR PLAN
C.S.A.H. 78

SHEET 52 OF 400

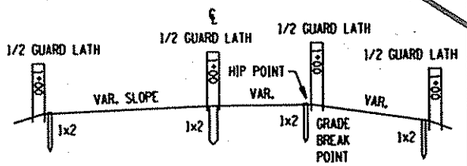
11:10:21 AM
6/15/2007
H:\Projects\5404\hl-mu\Plan\5404.DPA

BLUE TOPS

NORMAL SECTION

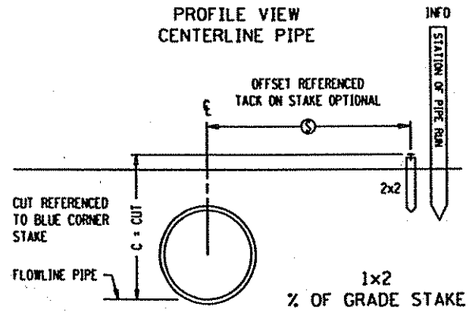


TRANSITION SECTION

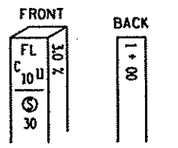


PIPE STAKING

PROFILE VIEW
CENTERLINE PIPE

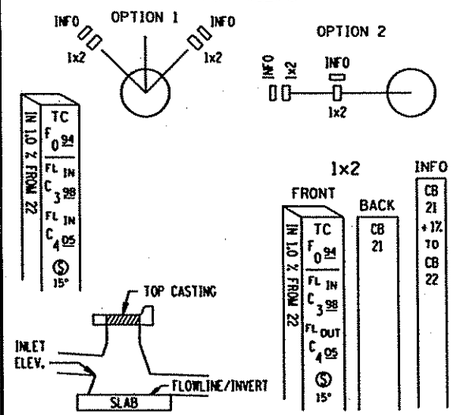


1x2
% OF GRADE STAKE



CATCH BASIN OR MANHOLE (CB/MH)

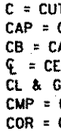
TOP VIEWS

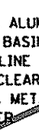


FLOWLINE/INVERT + 0.7'

STANDARD STAKES

TYPES:
REFERENCE (REF)
INFORMATIONAL (INFO)
VISIBILITY (VIS)
GUARD (GUARD)





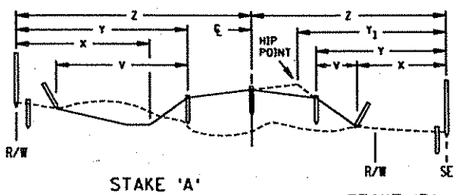
SIZES:
A = 2" X 2" X VAR. REF/INFO/GUARD
B = 1" X 2" X VAR. REF/INFO/GUARD
C = 1" X 2" X VAR. REF
D = LATH INFO/VIS/GUARD
1x2 OR LATH = INFO STAKES

ABBREVIATIONS

BBL = BARREL (PIPE)
B.C. = BACK CURB
C & G = CURB & GUTTER
C = CUT
CAP = CORR. ALUM. PIPE
CB = CATCH BASIN
℄ = CENTERLINE
CL & GR = CLEAR & GRUB
CMP = CORR. METAL PIPE
COR = CORNER
CR = CROWN
CSP = CORR. STEEL PIPE
℄ = DITCH CUT
D.E. = DRAINAGE EASEMENT
DI = DROP INLET
EB = EASTBOUND
E.M. = EDGE BITUMINOUS MAT
E.S. = EDGE CONCRETE SLAB
F = FILL
FF = FRONT FACE
FL = FLOW LINE
FL IN = FLOWLINE INLET
FL OUT = FLOWLINE OUTLET
GR = GRADE
GW = GRADING WIDTH
HH = HANDHOLE
HP = HIP POINT
LT = LEFT
MH = MANHOLE
NB = NORTHBOUND
Ⓢ = OFFSET
PAR = PARCEL
% = PERCENT GRADE
P.E. = PERM. EASEMENT
RAD = RADIUS POINT
RCP = REINF. CONC. PIPE
RP = REFERENCE POINT
RSC = REINF. SECT. CONC.
RT = RIGHT
R/W = RIGHT OF WAY
SB = SOUTHBOUND
SCP = SECT. CONC. PIPE
SH = SHOULDER
TC = TOP CASTING OR TOP CURB
T.E. = TEMP. EASEMENT
3 : 1 = SLOPE (EXAMPLE)
WB = WESTBOUND
WP = WORKING POINTS

SLOPE STAKES

SINGLE ROADWAY - EXAMPLE 'A'



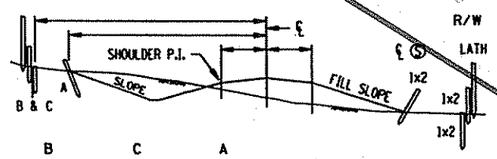
STAKE 'A'
FULL LATH AND HUB-STATION
DIST. TO ℄ WITH CUT/FILL TO ℄ (Z)
DIST. TO SHLD. WITH CUT/FILL TO SHLD. (Y) (Y1)
DIST. TO TOE OF SLOPE, CUT/FILL FROM HUB (X)
OFFSET TO SAFTY SLOPE
OFFSET TO HIP POINT

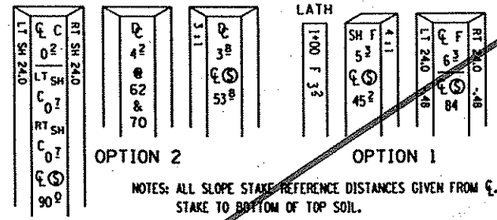
STAKE 'B'
FULL LATH
DITCH CUT/SHLD. FILL SLOPE RATED
DISTANCE TO INSLOPE TOE (V)) OR SHOULDER (AS APPLIES) (V)

NOTE:
BLUE TOPS REQUIRED ON ℄ AND BOTH SHOULDERS AT MINIMUM
ALL CULVERTS TO BE STAKED
MINIMUM DATA TO BE PROVIDED
STAKE TO BOTTOM OF TOPSOIL

SLOPE STAKES

SINGLE ROADWAY - EXAMPLE 'B'



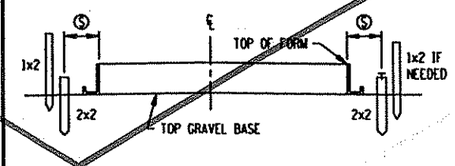


OPTION 2 OPTION 1

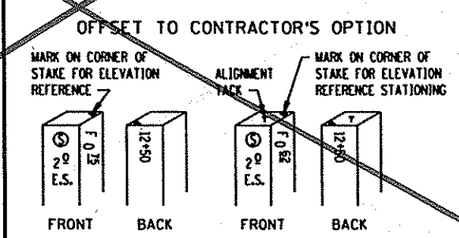
NOTES: ALL SLOPE STAKE REFERENCE DISTANCES GIVEN FROM ℄.
STAKE TO BOTTOM OF TOP SOIL.

KEY STAKES: BLUE TOP SET AT R/W BOUNDRY LT. & RT.
MAY BE EXCEPTIONS TO SETTING STAKE ON R/W.

CONCRETE PAVING STATIONARY FORM



OFFSET TO CONTRACTOR'S OPTION



NOTE INFORMATION ON STAKE IF NECESSARY

RECOMMENDED STAKING INTERVALS

FIGURE A

	SLOPE STAKES	SUB GRADE B.T.	CLASS MATERIAL B.T.	CONC PAVT	C & G	CL & GR LIMITS	MUCK EXC.	R/W	TEMP. EASE.
TANGENT	100	100	100	50	50	ALL CORNERS	100	ALL CORNERS	ALL CORNERS
HORIZ. CURVE									
0 - 3°	100	100	100	50	50	ALL CORNERS	100	ALL CORNERS	ALL CORNERS
OVER 3° -	100	50	50	25	25	ALL CORNERS	100	ALL CORNERS	ALL CORNERS
VERT. CURVE									
'M' 100' CHORD 0 - .25	100	100	100	50	50				
'M' OVER .25	100	50	50	25	25				
TRANS		50	50						

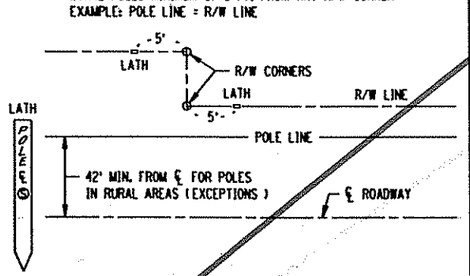
STAKING TOLERANCES (FEET)

	HORIZONTAL	VERTICAL
CONSTRUCTION LIMITS	± 1.5	
CLEARING & GRUBBING	2.0	
SLOPES STAKES	2.0	± 0.2
KEY STAKES	0.2	0.03
DRAINAGE STAKES	0.05	0.05
CURB & GUTTER	0.07	0.03
PAVING	0.05	0.03
ALIGNMENT	0.07	
UTILITY	0.10	0.05
STRUCTURAL	0.02	0.02
GUARD RAIL	0.5	
BUILDINGS	0.04	
O.H. SIGNS	0.05	0.05
MUCK EXCAVATION LIMITS	2.0	
R/W B-POINTS	0.10	
NOISE WALLS	1.0	0.5

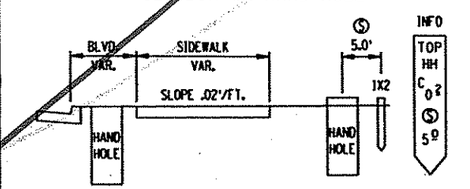
THE TOLERANCES ARE RELATIVE TO PROJECT DATUM

UTILITY (UTIL)

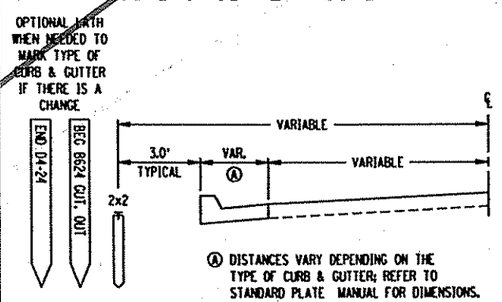
STAKE POLES MINIMUM OF 5 FT. FROM ANY R/W CORNER
EXAMPLE: POLE LINE = R/W LINE



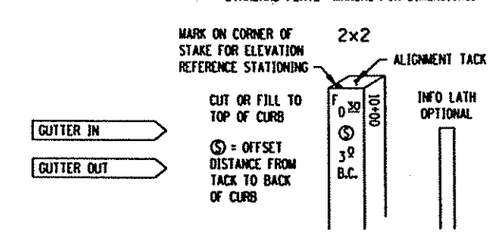
PULL BOX OR HAND HOLE



CURB & GUTTER (CURB)

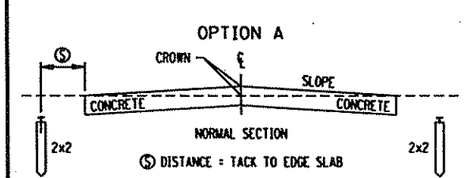


Ⓐ DISTANCES VARY DEPENDING ON THE TYPE OF CURB & GUTTER; REFER TO STANDARD PLATE MANUAL FOR DIMENSIONS.

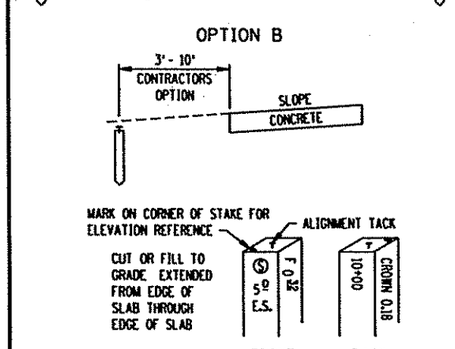


CONCRETE PAVING - SLIP FORM

OPTION A



OPTION B



DISCLAIMER

THESE STAKING INFORMATION SHEETS ARE FOR INFORMATION PURPOSES ONLY. STAKING PROCEDURES VARY AND MAY BE SUBJECT TO CHANGE DURING CONSTRUCTION BY CIRCUMSTANCES AND/OR AGREEMENTS BETWEEN SURVEY CREW AND CONTRACTOR.

STANDARD SHEET NO. 5-297.115 (1 OF 2)
STANDARD APPROVED: DECEMBER 21, 1994
TITLE: STAKING INFORMATION SHEET

STATE PROJ. NO. 0215-59 (T.H. 10) SHEET NO. 53 OF 681 SHEETS

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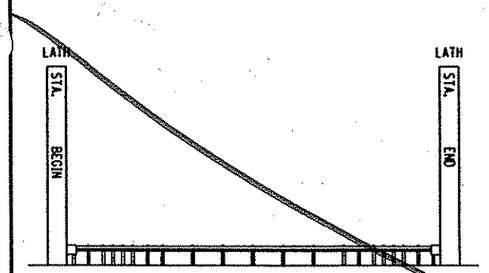
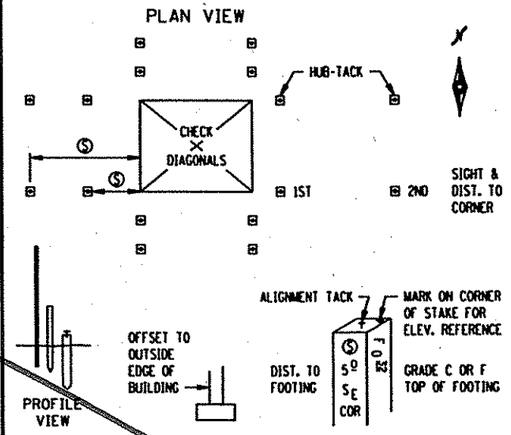
01/08/20 13:11:58 PM
FILE NAM 5115194.SPN

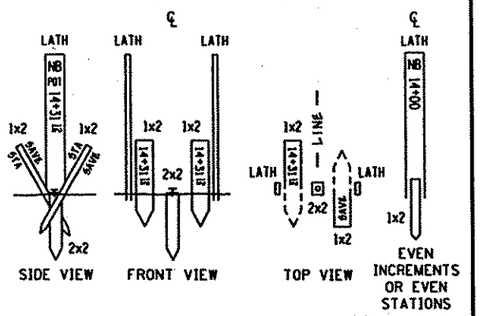
GUARDRAIL (GUARD)



BUILDING (BUILD) FOUNDATION / FOOTING



ALIGNMENT POINTS (ALIGN)



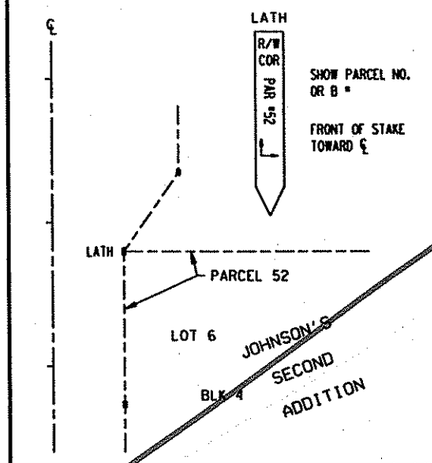
STAKE C = 2" X 2" HUB (LENGTH MAY VARY) SET AS TEMPORARY STAKE. MAY BE REPLACED BY MnDOT MARKER AFTER CONSTRUCTION IS COMPLETED.

SET AT GROUND LEVEL (TEMPORARY CONSTRUCTION STAKE).

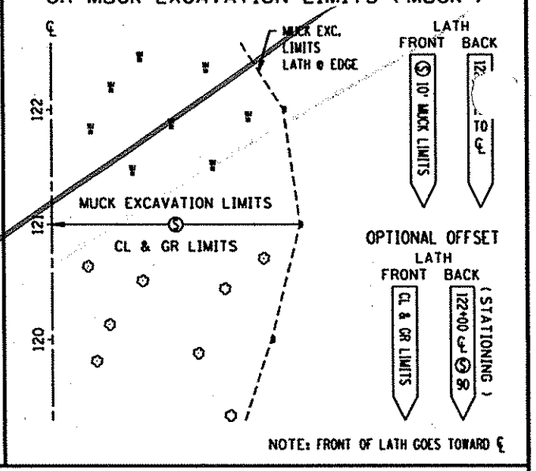
TACK SET AT ALIGNMENT POINTS.

STAKE A = GUARD STAKES SET AT ANGLE IN GROUND 6" EACH SIDE OF STAKE D, WITH STATIONING READ WHEN LOOKING UP STATION.

R/W & TEMP. EASEMENT (R/W)

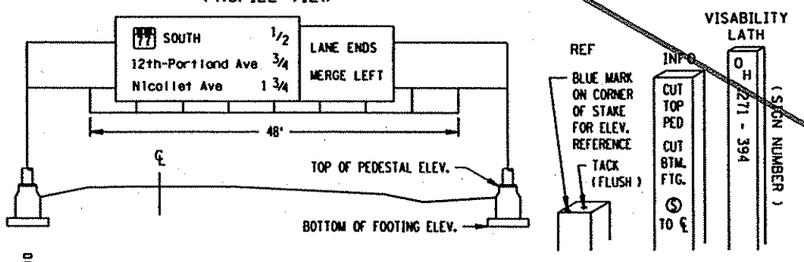


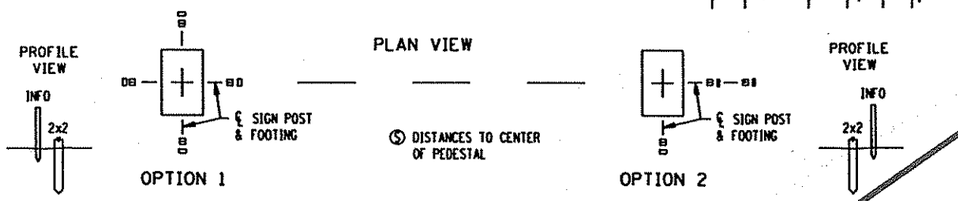
CLEAR & GRUBBING LIMITS (CLEAR) OR MUCK EXCAVATION LIMITS (MUCK)



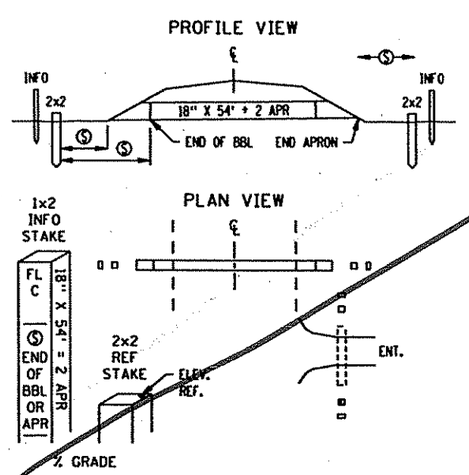
NOTE: FRONT OF LATH GOES TOWARD ℄

OVERHEAD SIGNS (SIGN)

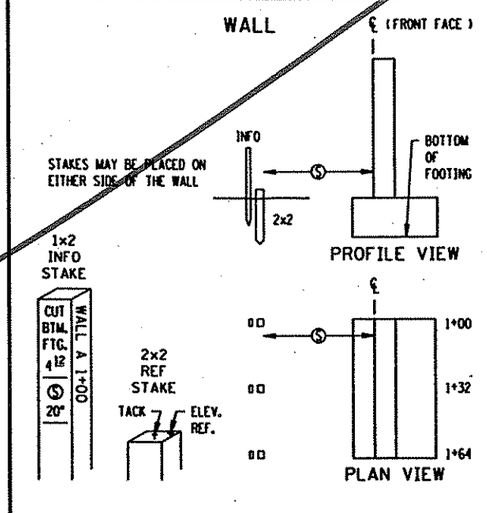




CULVERT

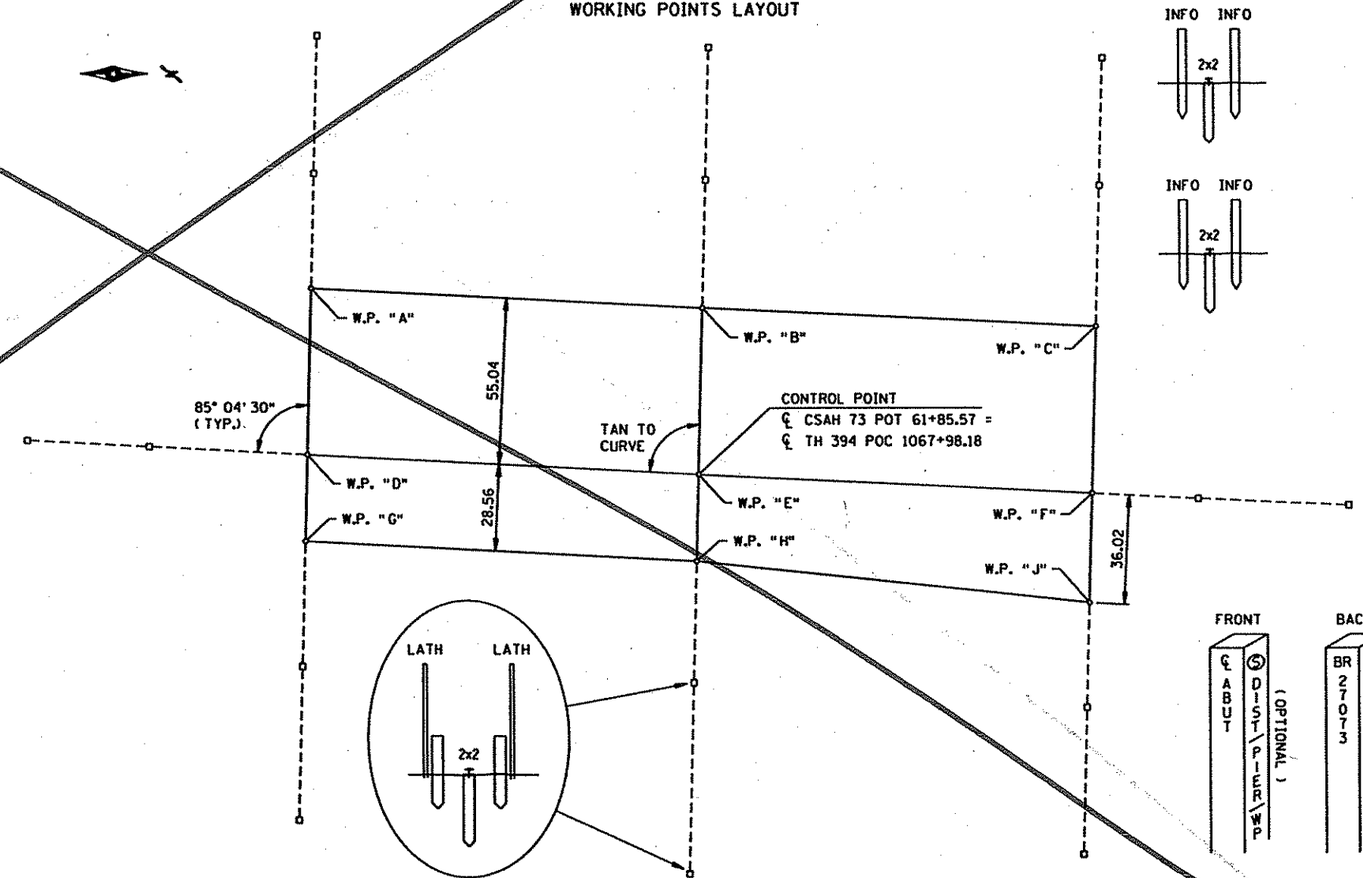


WALL



BRIDGESTAKING (BRIDGE)

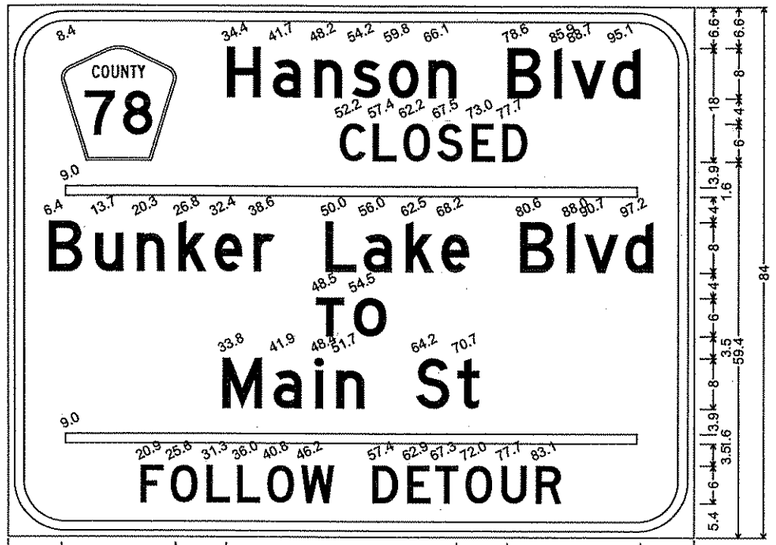
WORKING POINTS LAYOUT

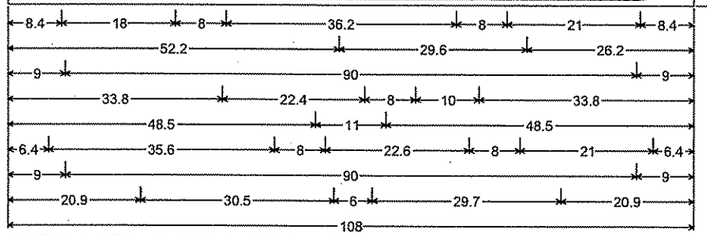


STANDARD SHEET NO. 5-297.115 (2 OF 2)	TITLE: STAKING INFORMATION SHEET
STANDARD APPROVED: DECEMBER 21, 1994	

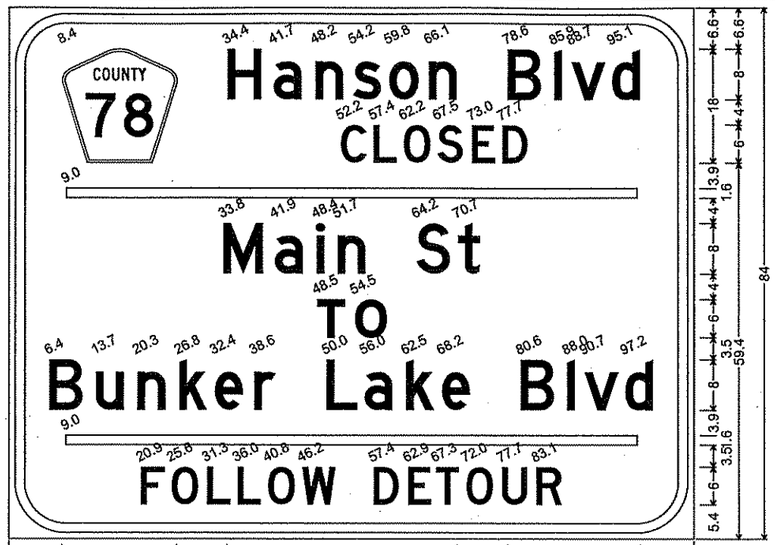
STATE PROJ. NO. 0215-59 (T.H. 10) SHEET NO. 54 OF 681 SHEETS

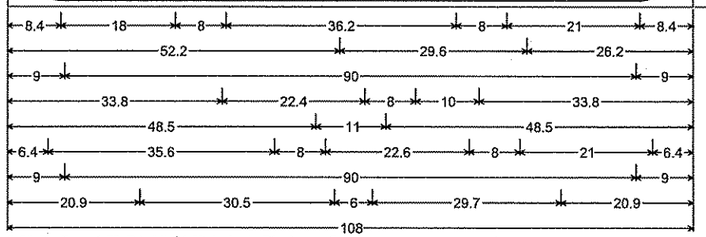
FILE NAME: 52L94.SPN



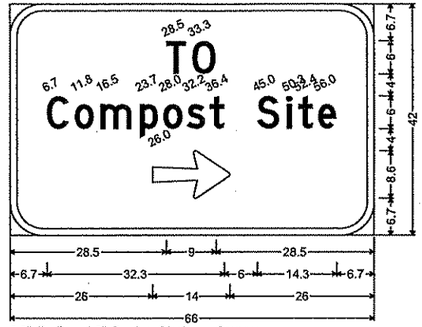


9.0" Radius, 1.5" Border, 1.0" Indent, Black on Orange;
[Hanson Blvd] D; [CLOSED] D; [Main St] D; [TO] E Mod; [Bunker Lake Blvd] D;
[FOLLOW DETOUR] D;

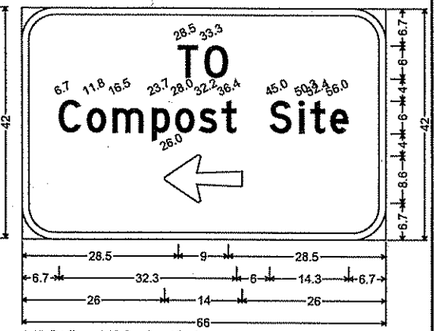




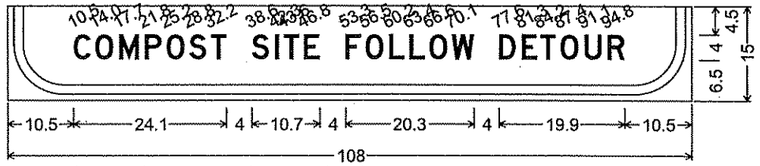
9.0" Radius, 1.5" Border, 1.0" Indent, Black on Orange;
[Hanson Blvd] D; [CLOSED] D; [Main St] D; [TO] E Mod; [Bunker Lake Blvd] D;
[FOLLOW DETOUR] D;



6.0" Radius, 1.3" Border, Black on Orange;
[TO] D; [Compost Site] D; Arrow 13 - 14.0" 0°;



6.0" Radius, 1.3" Border, Black on Orange;
[TO] D; [Compost Site] D; Arrow 13 - 14.0" 180°;



9.0" Radius, 1.5" Border, 1.0" Indent, Black on Orange;
[COMPOST SITE FOLLOW DETOUR] D;

NOTES:

1. Corners of the sign panels extending beyond the border shall not be trimmed unless otherwise noted.
2. See Standard Signs Manual for arrow and overlay details.

GENERAL TRAFFIC CONTROL NOTES:

1 ALL TRAFFIC CONTROL DEVICES, TEMPORARY LANE CLOSURE ARRANGEMENTS AND PROCEDURES, ETC. SHALL CONFORM TO REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

2 IF CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN, THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.

3 THE LOCATIONS AND QUANTITIES OF TRAFFIC CONTROL DEVICES SHOWN ON THESE PLANS ARE APPROXIMATE AND ARE SUBJECT TO REVISION BY THE ENGINEER.

4 PAVEMENT MARKINGS SHALL BE PAINT UNLESS NOTED OTHERWISE. BROKEN LINES SHALL CONSIST OF 10 FOOT LINE FOLLOWED BY 40 FOOT GAP.

5 ALL TRAFFIC THRU LANES SHALL BE A MINIMUM OF 12 FOOT IN WIDTH UNLESS NOTED OTHERWISE.

6 REFLECTORIZED DRUMS USED FOR CHANNELIZATION SHALL HAVE SPACING AS NOTED IN THE PLANS. DRUM LOCATIONS AND SPACINGS SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE SUBJECT TO REVISION BY THE ENGINEER.

7 THE CONTRACTOR SHALL MAINTAIN A 2 FOOT MINIMUM CLEAR DISTANCE BETWEEN THE EDGE OF THE TRAVEL LANE AND THE NEAREST EDGE OF ANY ADJACENT TRAFFIC CONTROL DEVICES (DRUMS, BARRICADES, BARRIERS, ETC.) UNLESS OTHERWISE NOTED.

8 THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES TO THE SATISFACTION OF THE ENGINEER.

9 THE CONTRACTOR SHALL PROVIDE CHANNELIZING DEVICES (AND SIGNING IF NECESSARY) AT ALL PRIVATE ENTRANCE LOCATIONS WHERE NEEDED TO SAFELY GUIDE TRAFFIC TO AND FROM THE TRAVEL CORRIDOR TO THE SATISFACTION OF THE ENGINEER.

10 THE CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH THESE TRAFFIC CONTROL PLANS TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL RESTORE ALL APPROPRIATE ORIGINAL PAVEMENT MARKINGS AFTER APPROVAL TO DO SO BY THE ENGINEER.

11 THE CONTRACTOR SHALL REMOVE, SALVAGE, OR COVER , AS APPROPRIATE, ALL EXISTING SIGNING WHICH CONFLICTS WITH THIS TRAFFIC CONTROL PLAN TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL RESTORE ALL APPROPRIATE ORIGINAL SIGNING AFTER APPROVAL TO DO SO BY THE ENGINEER. REMOVAL AND SALVAGE OF SIGNS SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEM. COVERING AND UNCOVERING OF SIGNS SHALL BE INCIDENTAL TO TRAFFIC CONTROL.

12 THESE TRAFFIC CONTROL LAYOUTS DO NOT SHOW ALL INPLACE SIGNING. THE CONTRACTOR SHALL RELOCATE ALL APPROPRIATE INPLACE SIGNING TO MAINTAIN PROPER SIGN VISIBILITY DURING CONSTRUCTION AS DEEMED NECESSARY BY THE ENGINEER.

13 THE CONTRACTOR SHALL PROVIDE QUALIFIED FLAGGERS WITH TWO-WAY RADIOS AT ALL TIMES WHEN CONTRACTOR OPERATIONS REQUIRE ONE-LANE-TWO-WAY OPERATION OR WHEN, IN THE OPINION OF THE ENGINEER, ONE-LANE-TWO-WAY OPERATIONS ARE APPROPRIATE DUE TO SAFETY CONCERNS FROM OPEN EXCAVATIONS, ADJACENT EQUIPMENT, ETC.

14 THE CONTRACTOR SHALL NOT PLACE PAINTED TEMPORARY PAVEMENT MARKINGS ON PERMANENT FINAL SURFACING (OR ON OTHER SURFACING WHICH WILL NOT ULTIMATELY BE REPLACED OR COVERED BY PLANNED CONSTRUCTION) UNLESS THE TEMPORARY MARKINGS ARE IN THE SAME LOCATION AS THE PERMANENT MARKINGS.

15 1:3 MAXIMUM TEMPORARY CONSTRUCTION EDGE SLOPES SHALL BE MAINTAINED AT ALL TIMES EXCEPT WHEN EXCAVATION WORK TEMPORARILY MANDATES STEEPER EDGE SLOPES, AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL MINIMIZE WORK LENGTHS TO FACILITATE IMMEDIATE REESTABLISHMENT OF 1:3 MAXIMUM TEMPORARY EDGE SLOPES FOLLOWING THE EXCAVATION WORK TO THE SATISFACTION OF THE ENGINEER. 1:1 MAXIMUM TEMPORARY CONSTRUCTION EDGE SLOPES MAY BE USED IF PROTECTED BY PORTABLE CONCRETE MEDIAN BARRIER.

16 THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE, AS APPROPRIATE, ALL SIGNS, PAVEMENT MARKINGS, AND DEVICES SHOWN ON THESE PLANS TO THE SATISFACTION OF THE ENGINEER.

17 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.

18 ALL ORANGE SIGNS SHALL BE MADE OF DIAMOND GRADE ORANGE REFLECTIVE SHEETING OR AN APPROVED SUBSTITUTE.

19 LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.

20 IN ALL WORK AREAS THAT REQUIRE "CONSTRUCTION UNDER TRAFFIC" THE CONTRACTOR SHALL PROTECT WORK AREAS AT ALL TIMES TO PROVIDE FOR SAFE TRAFFIC MOVEMENT TO THESATISFACTION OF THE ENGINEER.

21 ALL REQUIRED LANE CLOSURES ALONG C.S.A.H. 78, C.S.A.H. 116, AND T.H. 242 SHALL BE DONE DURING THE OFF PEAK HOURS (PREFERABLY AT NIGHT) TO MINIMIZE INCONVENIENCE TO THE TRAVELING PUBLIC.

22 FIELD CONDITIONS MAY REQUIRE MODIFICATION OF THE TRAFFIC CONTROL PLAN. ANY MODIFICATION SHALL BE APPROVED BY THE ENGINEER IN THE FIELD.

23 ADVANCE WARNING SIGNS SHALL BE MOUNTED ON STANDARD TYPE III BARRICADES OR POST MOUNTED OR AS APPROVED BY THE ENGINEER.

24 POSTS SHALL BE PLUMB, WITH SIGNS INSTALLED LEVEL AND AT PROPER MOUNTING HEIGHT IN ACCORDANCE WITH M.M.U.T.C.D. IF POST MOUNTING IS NOT POSSIBLE, SIGNS SHALL BE MOUNTED ON PORTABLE SUPPORTSAS APPROVED BY THE ENGINEER.

25 ALL SIGNS AND TRAFFIC CONTROL ITEMS SHALL BE LIKE NEW AND REFLECT UNIFORMLY AT NIGHT.

26 SPACING OF SIGNS AND TRAFFIC CONTROL DEVICES MAY BE ADJUSTED AS APPROVED BY THE ENGINEER.

27 THE CONTRACTOR SHALL PLACE PERMANENT PAVEMENT MARKINGS AND INSTALL PERMANENT SIGNING (TYPES C, D,AND OH) DURING EACH STAGE OF CONSTRUCTION AS APPROPRIATE AND CONSISTENT WITH THE REQUIREMENTS OF THE TEMPORARY TRAFFIC CONTROL.

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
...\5404\hl-mu\plan\5404.TCB					

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TRAFFIC CONTROL NOTES AND STAGING NARRATIVE
C.S.A.H. 78
DETOUR SIGN DETAILS

SHEET 53 OF 400

11:10:22 AM
6/15/2007
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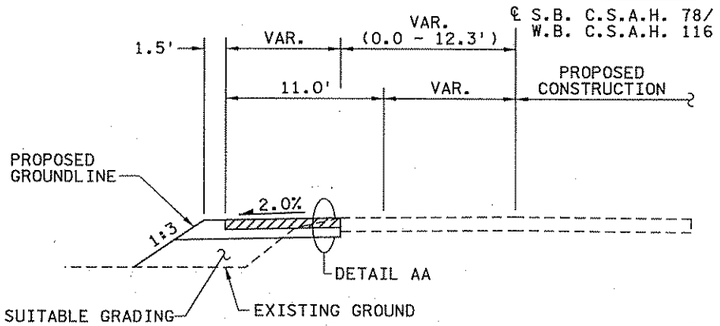
(BB) TRAFFIC CONTROL SIGN TABULATION

LEGEND	DESIGNATION	SIZE (ENGLISH DIMENSIONS)	COLOR	QUANTITY			
				STAGE 1	STAGE 2A	STAGE 2B	STAGE 2C
ROAD WORK AHEAD	W20-1	48"X48"	BLACK ON ORANGE	16	16	14	14
END ROAD WORK	G20-2A	48"X24"	BLACK ON ORANGE	14	13	13	13
RIGHT LANE CLOSED	W21-X5R	48"X48"	BLACK ON ORANGE	5	2	3	3
	W1-6L	48"X24"	BLACK ON ORANGE	4	2	2	2
	R3-1	24"X24"	BLACK AND RED ON WHITE	1	1	1	1
	R3-2	24"X24"	BLACK AND RED ON WHITE	1	1	1	1
ROAD CLOSED	R11-2R	48"X30"	BLACK ON WHITE	19	19	19	19
	TYPE 'A'	FLASHER	AMBER	-	-	0	0
	TYPE III	6" MIN.	ORANGE ON WHITE	182	297	297	297
	DRUM	18"X36" MIN.	WHITE ON ORANGE	161	165	165	165
MERGE	W20-X3L	48"X48"	BLACK ON ORANGE	3	1	1	1
	W1-4L	48"X48"	BLACK ON ORANGE	3	6	0	0
	W1-4R	48"X48"	BLACK ON ORANGE	2	0	0	0
DETOUR	M4-10L	48"X18"	BLACK ON ORANGE	1	1	1	1
DETOUR	M4-10R	48"X18"	BLACK ON ORANGE	1	1	1	1
ROAD CLOSED TO THRU TRAFFIC	R11-4	60"X30"	BLACK ON WHITE	4	3	0	0
LEFT LANE CLOSED	W21-X5L	48"X48"	BLACK ON ORANGE	0	2	0	0
	W4-2L	48"X48"	BLACK ON ORANGE	0	1	0	0
	W4-2R	48"X48"	BLACK ON ORANGE	2	1	1	1
STOP	R1-1	48"X48"	WHITE ON RED	5	9	0	0
ROAD CLOSED AHEAD	W20-3	48"X48"	BLACK ON ORANGE	7	6	6	6
RIGHT TURN LANE	R3-X1	30"X30"	BLACK ON WHITE	1	0	0	0
LEFT TURN LANE	R3-X2	30"X30"	BLACK ON WHITE	0	1	0	0
MERGE	W20-X3R	48"X48"	BLACK ON ORANGE	0	1	0	0

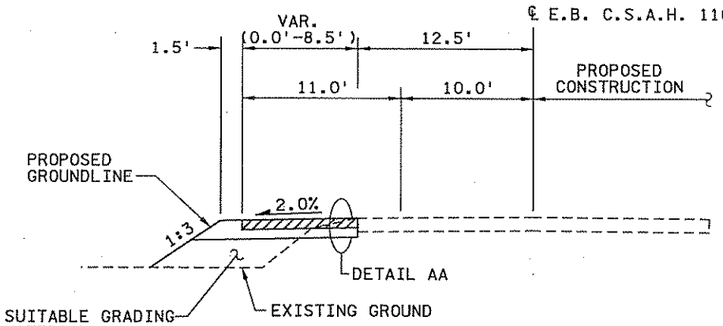
TRAFFIC CONTROL SIGN TABULATION

LEGEND	DESIGNATION	SIZE (ENGLISH DIMENSIONS)	COLOR	QUANTITY			
				STAGE 1	STAGE 2A	STAGE 2B	STAGE 2C
STOP AHEAD	R10-6R	24"X36"	BLACK ON WHITE	7	7	7	7
	X4-4L	12"X36"	BLACK ON YELLOW	1	0	0	0
	R4-7	24"X30"	BLACK ON WHITE	1	0	0	0
	W1-7	48"X24"	BLACK ON ORANGE	2	0	0	0
ONLY	R3-30AD	36"X30"	BLACK ON ORANGE	4	4	5	5
ONLY ONLY	R3-30AA	36"X30"	BLACK ON ORANGE	1	1	2	2
ONLY ONLY ONLY	R3-30ACCA	66"X30"	BLACK ON ORANGE	0	0	2	2



STAGE 1 TEMPORARY PAVEMENT

S.B. C.S.A.H. 78
STA. 67+51.9 TO STA. 71+61.5
STA. 147+56.1 TO STA. 151+23.0
STA. 152+57.3 TO STA. 156+28.3
STA. 158+40.8 TO STA. 164+38.3
STA. 165+94.4 TO STA. 178+17.3
W.B. C.S.A.H. 116
STA. 24+28.4 TO STA. 28+12.3



STAGE 2 TEMPORARY PAVEMENT

E.B. C.S.A.H. 116
STA. 24+92.1 TO STA. 28+27.1

STAGING NARRATIVE

GENERAL NOTES:

- **DO NOT PAVE THE FINAL 2" BITUMINOUS WEARING COUSRE UNTIL ALL STAGES OF CONSTRUCTION HAVE BEEN COMPLETED.**
- **COMPLETE MILLING AS REQUIRED THROUGH ALL STAGES OF CONSTRUCTION AS SHOWN IN THE PLANS.**
  INSTALL SIGNING AND STRIPING PER EACH STAGING AND TRAFFIC CONTROL PLAN.
  INSTALL TEMPORARY AND/ OR PERMANENT SEDIMENT AND EROSION CONTROL MEASURES DURING AND AFTER COMPLETION OF EACH PARTIAL STAGE OF CONSTRUCTION.

STAGE 1

1. BEGIN CLEARING, GRUBBING, NB/SB C.S.A.H. 78 FROM STA. 54+75 TO STA 181+00.
2. BUILD RETAINING WALL FROM NB C.S.A.H. 78 STA. 68+69.9 TO 71+29.4.
3. COMPLETE MUCK OPERATIONS FROM NB C.S.A.H. 78 STA. 101+25 TO 103+90.
4. IMPLEMENT DETOUR IN STAGE 1.
5. CLOSE C.S.A.H. 78 BETWEEN 127TH AVENUE AND STATION PARKWAY.
6. SHIFT LOCAL ACCESS TRAFFIC ONTO SB C.S.A.H. 78 AS SHOWN IN STAGING PLANS.
7. CONSTRUCT PROPOSED STORM SEWER BETWEEN NB/SB C.S.A.H. 78 STA. 85+00 - 111+00 (LT AND RT).
8. CONSTRUCT PROPOSED STORM SEWER BETWEEN NB/SB C.S.A.H. 78 STA. 117+50 - 136+00.
9. CONSTRUCT NB C.S.A.H. 78 ROADWAY SUB-GRADE BETWEEN STA. 85+00 - 135+50, FOR STORM SEWER INSTALLATION.
10. CONSTRUCT PERMANENT 129TH LANE, GROUSE STREET, AND SB C.S.A.H. 78 ROADWAY BETWEEN STA. 85+00-135+50, FOR WINTER SUSPENSION.
11. COMPLETE NECESSARY RAPID STABILIZATION BEFORE WINTER SEASON CLOSURE.

STAGE 2A

1. CONSTRUCT TEMPORARY PAVEMENT WIDENING AS INDICATED IN STAGE 2A.
2. CONSTRUCT CROSS-OVER FROM EB C.S.A.H. 116 TO WB C.S.A.H. 116.
3. BEGIN TEMPORARY SIGNED CONSTRUCTION AT T.H. 242 AND C.S.A.H. 116 (TEMP. SIGNAL A, TEM. SIGNAL B).
4. SHIFT TRAFFIC ONTO WIDENED PAVEMENT ON C.S.A.H. 78 AND C.S.A.H. 116 AS INDICATED IN STAGE 2A.
5. START OPERATION OF TEMPORARY SIGNALS AT T.H. 242 AND C.S.A.H. 116.
6. CONSTRUCT ALL REMAINING PROPOSED C.S.A.H. 78 STORM SEWER BETWEEN STATION PARKWAY AND END OF PROJECT.
7. CONSTRUCT ALL REMAINING PROPOSED C.S.A.H. 116 STORM SEWER.
8. CONSTRUCT PROPOSED STORM SEWER BETWEEN NB/SB C.S.A.H. 78 STA. 54+75 - 85+00 (LT AND RT).
9. REVISE TEMPORARY SIGNALS AT T.H. 242 AND C.S.A.H. 116 FOR STAGE 2A AND 2B OPERATION.
10. BEGIN CONSTRUCTION OF PERMANENT SIGNALS AT T.H. 242 AND C.S.A.H. 116.
11. CONSTRUCT PERMANENT SB C.S.A.H. 78 ROADWAY BETWEEN STATION PARKWAY AND END OF PROJECT.
12. CONSTRUCT PERMANENT WB C.S.A.H. 116 ROADWAY.

STAGE 2B

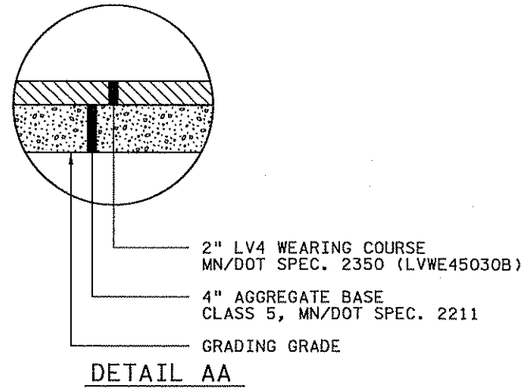
1. SHIFT C.S.A.H. 78 TRAFFIC ONTO NEW PERMANENT NB C.S.A.H. 78 AS INDICATED IN STAGE 2B.
2. SHIFT C.S.A.H. 116 TRAFFIC ONTO NEW PERMANENT EB C.S.A.H. 116 AS INDICATED IN STAGE 2B.
3. CONSTRUCT PERMANENT SB C.S.A.H 78 ROADWAY BETWEEN STATION PARKWAY AND END OF PROJECT AS INDICATED IN STAGE 2B.
4. COMPLETE PERMANENT C.S.A.H. WB 116 ROADWAY CONSTRUCTION.
5. CONTINUE TO KEEP C.S.A.H. 78 ROADWAY CLOSED BETWEEN 127TH AVENUE TO C.S.A.H. 116.
6. CONSTRUCT PROPOSED STORM SEWER BETWEEN NB C.S.A.H. 78 STA. 54+75 - 85+00.
7. CONSTRUCT PERMANENT SB C.S.A.H. 78 ROADWAY BETWEEN STA. 54+75 AND T.H. 242.

STAGE 2C

1. SHIFT SB C.S.A.H. 78 TRAFFIC AS INDICATED IN STAGE 2C.
2. COMPLETE SB C.S.A.H. 78 CONSTRUCTION FROM STATION 65+00 - 85+00.
3. CONSTRUCT REMAINING PROPOSED STORM SEWER FROM C.S.A.H. 78 65+00 - 85+00.

STAGE 3

1. REMOVE TEMPORARY SIGNALS AT T.H. 242 AND C.S.A.H. 116. START OPERATION OF PERMANENT SIGNALS.
2. CONSTRUCT MEDIAN BETWEEN EB C.S.A.H. 116 STA. 18+00 AND 20+00.
3. CONSTRUCT MEDIAN BETWEEN EB C.S.A.H. 116 STA. 24+00 AND 27+00.
4. CONSTRUCT FINAL 2" BITUMINOUS WEARING COURSE.
5. CONSTRUCT PERMANENT PAVEMENT MARKINGS AS SHOWN IN SIGNING AND STRIPING PLANS.



DETAIL AA

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.TCA

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: CHRIS M. TRBOYEVICH
Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

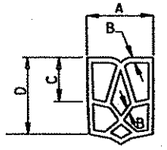
ANOKA COUNTY
TRAFFIC CONTROL NOTES AND STAGING NARRATIVE
C.S.A.H. 78

SHEET 54 OF 400

11:10:23 AM
6/15/2007
by User: dcarte\5404\hl-mu\plan\5404.TCA

REQUIRED DIMENSIONS

JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	11/16" USE IN ALL 3/8" JOINTS
A	0.69" + 0.13" - 0.05"
B	0.08" ± 0.02"
C	0.25" MIN.
D	0.63" MIN.



SPEC. REFERENCE 3721

TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)

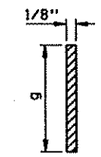
NOTES:

"A" DIMENSION SHALL APPLY AT ANY POINT THROUGHOUT "C" DEPTH. IN ITS FINAL POSITION, THE TOP CORNERS OF THE PREFORMED JOINT SEALER SHALL BE PLACED NOT LESS THAN 1/8 IN., NOR MORE THAN 5/16 IN. BELOW THE PAVEMENT SURFACE.

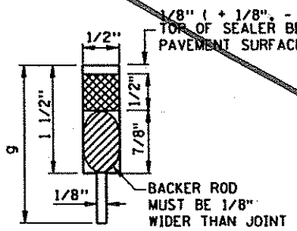
SHARP INTERNAL CORNERS WILL NOT BE PERMITTED. ALL CORNERS SHALL BE PROVIDED WITH SUITABLE FILLET. CURRENTLY APPROVED CONFIGURATIONS ARE ON FILE IN THE MATERIALS ENGINEERING SECTION, MINNESOTA DEPARTMENT OF TRANSPORTATION.

CONTRACTION JOINT SEALER

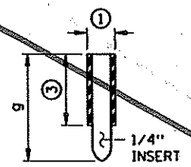
PREFORMED ELASTIC TYPE



DETAIL A
FORMED & SAWED



DETAIL B ②
SAWED



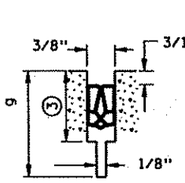
DETAIL C
FORMED
(INSERT TO BE REMOVED)

CONTRACTION JOINT CLASS DESIGNATION, DETAIL & SEALER SPEC. TABLE

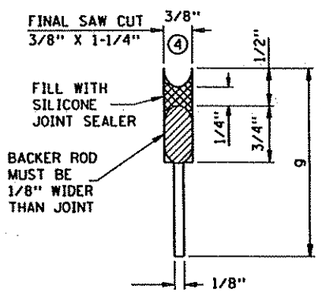
CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITHOUT DOWELS	WITH DOWELS		
C1A	C1A-D	A	UNSEALED
C2A	C2A-D	A	3725
C2B	C2B-D	B	3725
C2X	C2X-D	B OR C	3725
C3D	C3D-D	D	3721
C3X	C3X-D	C OR D	3721
C4E	C4E-D	E	3722

DOWEL BAR DIAMETER TABLE

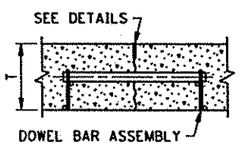
PAVEMENT THICKNESS T	DOWEL BAR DIAMETER
6" - 6 1/2"	1"
7" - 10"	1 1/4"
10 1/2" - 14"	1 1/2"



DETAIL D
SAWED



DETAIL E
SAWED



SECTION AT JOINT

LEGEND

C = CONTRACTION JOINT
NO. = SEALANT TYPE
1 = UNSEALED
2 = 3725
3 = 3721
4 = 3722
LETTER = DETAIL
X = MORE THAN 1 DETAIL
-D = DOWEL BARS

EXAMPLE C2B-D

NOTES:

① DESIGN C3X OR C3X-D - PRIOR TO INSTALLING PREFORMED JOINT SEALER IN THE FORMED JOINT (DETAIL C), THE JOINT SHALL BE WIDENED TO A NOMINAL WIDTH OF 3/8" BY SAWING ALONG THE FULL LENGTH OF THE FORMED JOINT.

DESIGN C2X OR C2X-D - PRIOR TO SEALING FORMED JOINT (DETAIL C) WITH HOT POUR SEALER THE JOINT SHALL BE WIDENED TO A NOMINAL WIDTH OF 1/2". SAW ALONG THE FULL LENGTH OF THE FORMED JOINT TO DEPTH OF 3/4" (+ 1/8", - 1/16"). THE SEALER SHALL BE FILLED TO THE SAME DEPTH AS SHOWN IN DETAIL B.

② DESIGN C2B OR C2B-D - PRIOR TO SEALING JOINT (DETAIL B) WITH HOT POUR JOINT SEALER, A 5/8" DIA. CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 5/8" BELOW THE SURFACE OF THE PAVEMENT.

③ WHEN USING PREFORMED JOINT SEALER, THE DEPTH SHALL BE 1/4" MORE THAN THE PREFORMED SEALER, WHEN COMPRESSED, TO FIT THE JOINT DESIGN WIDTH.

④ THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2" BELOW THE SURFACE OF THE PAVEMENT. NON SELF-LEVELING SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEALANT BEAD THICKNESS OF 1/4".

GENERAL NOTES:

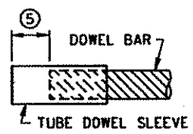
SEE STANDARD PLATE 1103, DOWEL BAR ASSEMBLY. SEE STANDARD PLATE 1150, CONSTRUCTION OF HEADER JOINTS. SEE STANDARD PLANS 5-297.217 AND 5-297.219, CONCRETE MAINLINE/RAMP PAVEMENT.

SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.

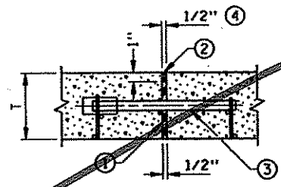
FOR UNBONDED OVERLAYS, THE JOINT DEPTH g " SHALL BE T/3.
FOR CONCRETE PAVEMENT, THE JOINT DEPTH "g" SHALL BE T/4.

CONTRACTION JOINTS

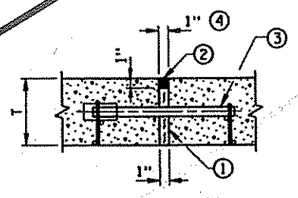
DESIGN C



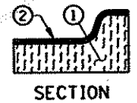
DOWEL BAR SLEEVE DETAIL

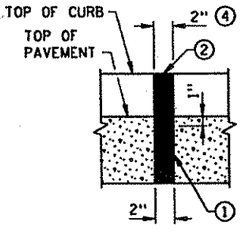


DETAIL A

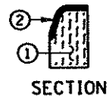


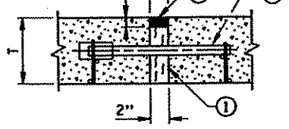
DETAIL C





DETAIL D





E4D-1
(W/DOWELS)
DETAIL E

EXPANSION JOINTS

CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITH DOWELS	WITHOUT DOWELS		
E1D-1	E1-1	A	3723
E2D-1	E2-1	C	3723
	E4-1	D	3723
E4D-1		E	3723
	E8S-1	⑥	3725

LEGEND

E = EXPANSION JOINT
NO. = JOINT REFERENCE ④
D = DOWEL BARS
S = CONCRETE SILL
-1 = HOT POURED SEAL

EXAMPLE

E1D-1
HOT POURED SEAL
DOWEL BARS
JOINT REFERENCE
EXPANSION JOINT

NOTES:

① PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.

② JOINT SEALER SPEC. 3723. TOP OF SEALER, FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION E JOINTS FLUSH WITH SURFACE ± 1/8".

③ DOWEL BAR ASSEMBLY, SEE STANDARD PLATE 1103.

④ THE FIRST NUMBER IN THE JOINT DESIGNATION IS EQUAL TO HALF OF THE JOINT NUMBER IN 1/2" INTERVALS (I.E. E1 = 1/2", E2 = 1", E4 = 2", AND E8 = 4").

⑤ SPACE FROM END OF DOWEL BAR TO END OF SLEEVE TO BE EQUAL TO EXPANSION JOINT WIDTH.

⑥ SEE STANDARD PLAN 5-297.223 FOR E8S JOINT DETAIL.

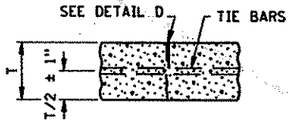
EXPANSION JOINTS

DESIGN E

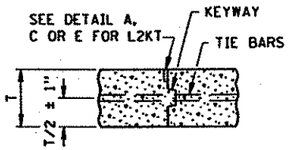
DISK FILE NAME:
PLOT DATE:
FILE NAME S221, ,SPN.DWG

STANDARD SHEET NO. 5-297.221 (1 OF 2)	TITLE: PAVEMENT JOINTS CONTRACTION (DESIGN C) AND EXPANSION (DESIGN E)
STANDARD APPROVED: JUNE 6, 2005	

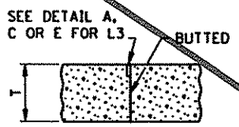
STATE PROJ. NO. 0215-59 (T.H. 10) SHEET NO. 55 OF 681 SHEETS



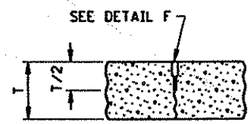
L1 & L1T



L2KT



L3



L4

LONGITUDINAL JOINT CLASS DESIGNATION, DETAIL & SEALER SPECIFICATION TABLE

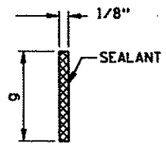
CLASS DESIGNATION				JOINT DETAIL	JOINT SEALER SPECIFICATION
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS	BUTTED		
L1H	L1TH			B	3723
		L2KTH		D OR E	3723
		L2KTS		C	3722
			L3H	D OR E	3723
			L3S	C	3722
L4S				F	3722

LEGEND

L = LONGITUDINAL JOINT
NO. = JOINT REFERENCE
K = KEYWAY
T = TIE BARS
U = UNSEALED
H = HOT POUR (SEALANT)
S = SILICONE (SEALANT)

JOINT REFERENCE NUMBERS

1 = SAWED TO A DEPTH OF T/3
2 = KEYED CONSTRUCTION JOINT
3 = BUTTED CONSTRUCTION JOINT
4 = SAWED TO A DEPTH OF T/2



DETAIL B
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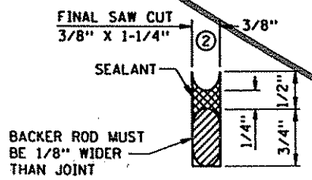
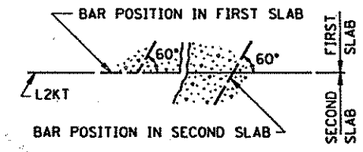
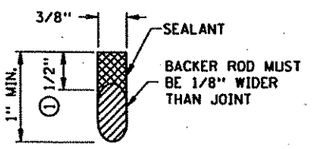


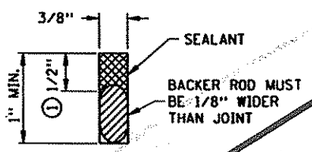
DETAIL C
(SAWED AND SEALED WITH SPEC. 3722)



TIE BAR BENDING DETAIL



DETAIL D
(FORMED & SEALED WITH SPEC. 3723)



DETAIL E
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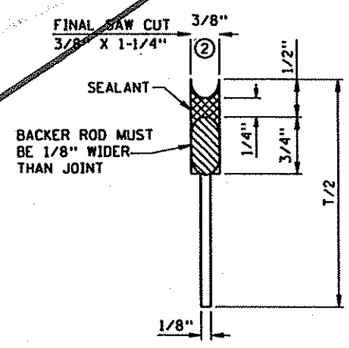


DETAIL F
(SAWED AND SEALED WITH SPEC. 3722)

LONGITUDINAL JOINT NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

THE TIE BAR SPACING FOR ALL L2KT JOINTS SHALL BE 2' - 6" CENTER TO CENTER AND BENT 60° AS SHOWN, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.

TIE BARS IN THE L2KT JOINTS SHALL BE THE SAME SIZE AND LENGTH AS USED FOR THE L1T JOINTS, WHEN TYING PAVE TO PAVEMENT. TIE BARS IN THE L2KT JOINTS SHALL BE 13 X 2' - 6", WHEN TYING CURB & GUTTER TO PAVEMENT.

ALL TIE BARS SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M-31 OR M-53.

NORMALLY, TIED PAVEMENT WIDTHS SHALL NOT EXCEED FOUR LANES, EXCEPT BRIDGE APPROACH PANELS AND PAVEMENT TAPERS.

JOINT WIDTH TOLERANCE IS + 1/16 IN. TO - 1/32 IN.

FOR CONCRETE PAVEMENT THE JOINT DEPTH " g " SHALL BE T/3 INCHES.

SPEC. 3723 SEALER - TOP OF SEALER FLUSH TO - 3/16 IN. BELOW TOP OF PAVEMENT SURFACE.

① THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F, WITH A DIAMETER 1/8 IN. LARGER THAN THE JOINT OPENING, MAY BE PLACED 1/2 IN. BELOW THE TOP OF THE PAVEMENT.

② THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT. A 1/2 IN. DIAMETER CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2 IN. BELOW THE SURFACE OF THE PAVEMENT. NON-SELF-LEVELING SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEALANT BEAD THICKNESS OF 1/4 IN.

GENERAL NOTES:

SEE STANDARD PLATE 1103, DOWEL BAR ASSEMBLY. SEE STANDARD PLATE 1141, PAVEMENT KEYWAY. SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.

SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATIONS TO BE USED & SPECIAL REINFORCEMENT REQUIRED.

PLOT DATE:
FILE NAME S22_SPN.DWG
DISK FILE NAME:

STANDARD SHEET NO.	TITLE:
5-297.221 (2 OF 2)	PAVEMENT JOINTS LONGITUDINAL (DESIGN L)
STANDARD APPROVED: JUNE 6, 2005	

STATE PROJ. NO. 0215-59 (T.H. 10) SHEET NO. 56 OF 681 SHEETS

LEGEND

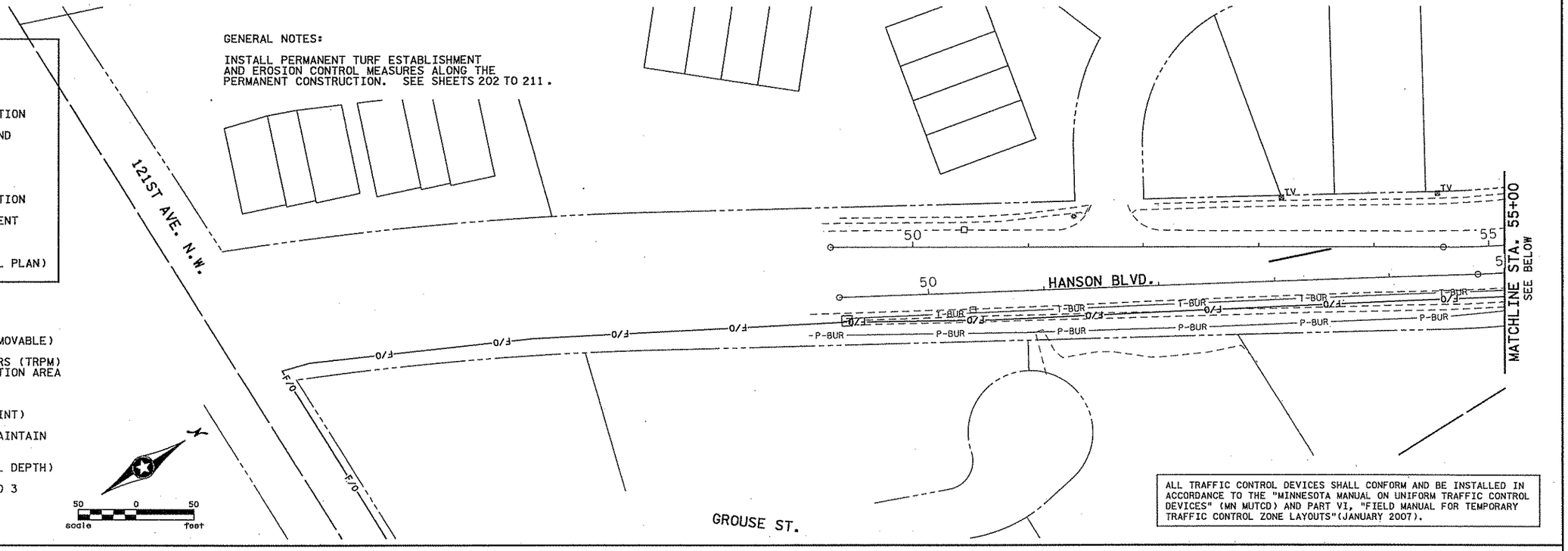
- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

NOTES:

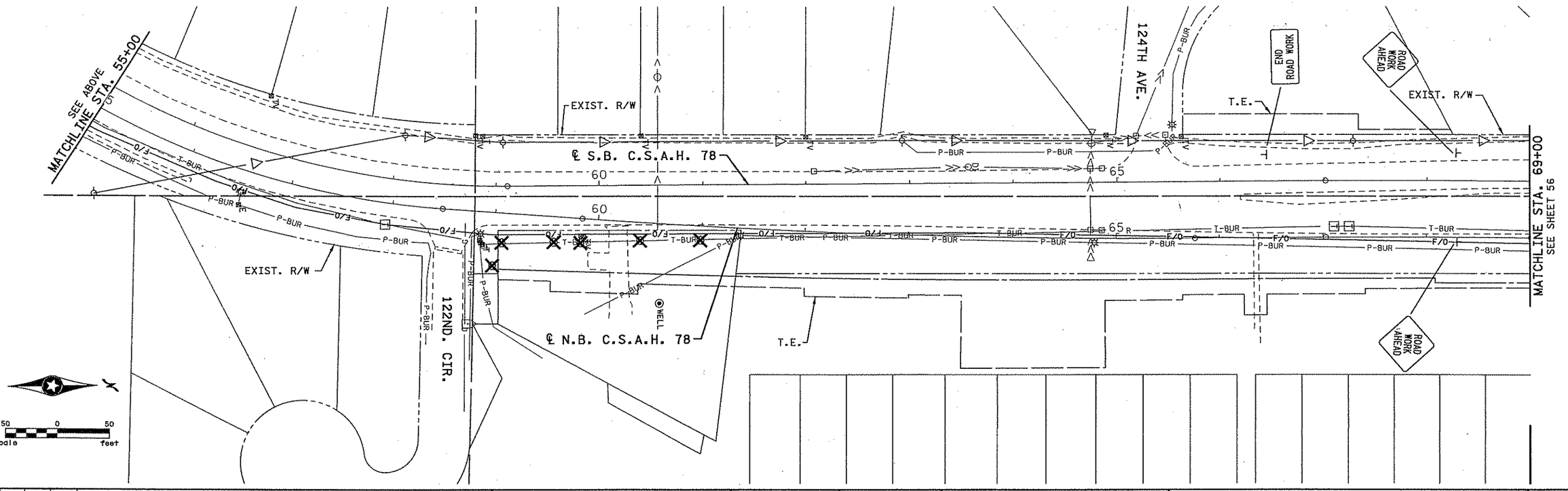
1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.



ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).



NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H1A

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

STAGE 1

SHEET 55 OF 400

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6/15/2007
H:\Projects\5404\hl-mu\Plan\5404.H1A

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

GROUSE ST.

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

SEE SHEET 55

MATCHLINE STA. 69+00

T.E.

PROP. R/W

T.H. 242

125TH LANE

ROAD CLOSED TO THRU TRAFFIC

DETOUR

℄ N.B. C.S.A.H. 78

EX. 12' LANE

EX. 12' LANE

11' LANE

11' LANE

PROP. R/W

T.E.

11' LANE

11' LANE

11' LANE

EXIST. R/W

126TH LANE

ONLY

ONLY

EAGLE ST.

MATCHLINE STA. 84+00

SEE SHEET 57

50 0 50
scale feet

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

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NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

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6/15/2007
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

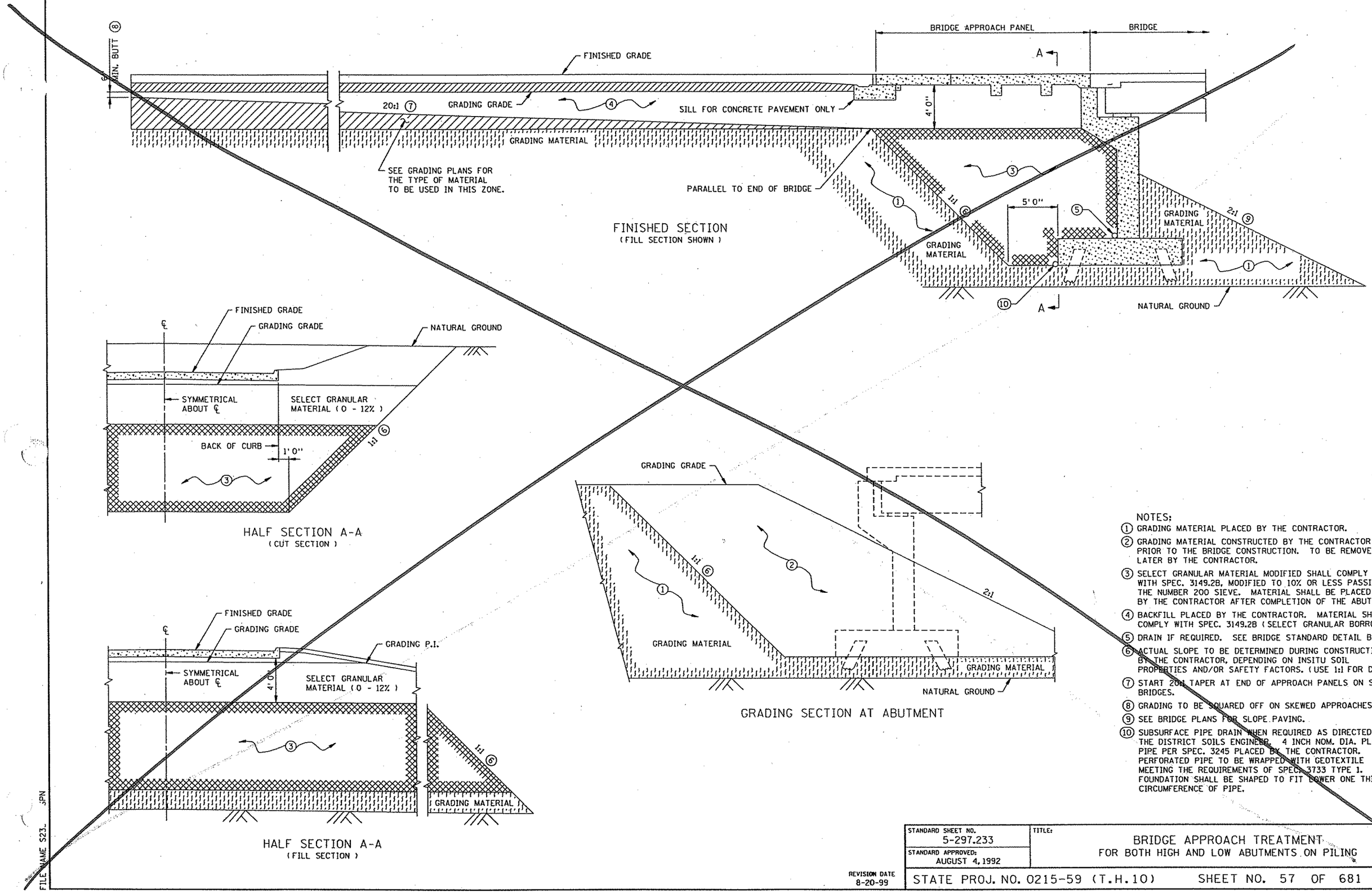
ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

STAGE 1

SHEET 56 OF 400



NOTES:

① GRADING MATERIAL PLACED BY THE CONTRACTOR.

② GRADING MATERIAL CONSTRUCTED BY THE CONTRACTOR PRIOR TO THE BRIDGE CONSTRUCTION. TO BE REMOVED LATER BY THE CONTRACTOR.

③ SELECT GRANULAR MATERIAL MODIFIED SHALL COMPLY WITH SPEC. 3149.2B, MODIFIED TO 10% OR LESS PASSING THE NUMBER 200 SIEVE. MATERIAL SHALL BE PLACED BY THE CONTRACTOR AFTER COMPLETION OF THE ABUTMENT.

④ BACKFILL PLACED BY THE CONTRACTOR. MATERIAL SHALL COMPLY WITH SPEC. 3149.2B (SELECT GRANULAR BORROW).

⑤ DRAIN IF REQUIRED. SEE BRIDGE STANDARD DETAIL B910.

⑥ ACTUAL SLOPE TO BE DETERMINED DURING CONSTRUCTION BY THE CONTRACTOR, DEPENDING ON INSITU SOIL PROPERTIES AND/OR SAFETY FACTORS. (USE 1:1 FOR DESIGN)

⑦ START 20:1 TAPER AT END OF APPROACH PANELS ON SKEWED BRIDGES.

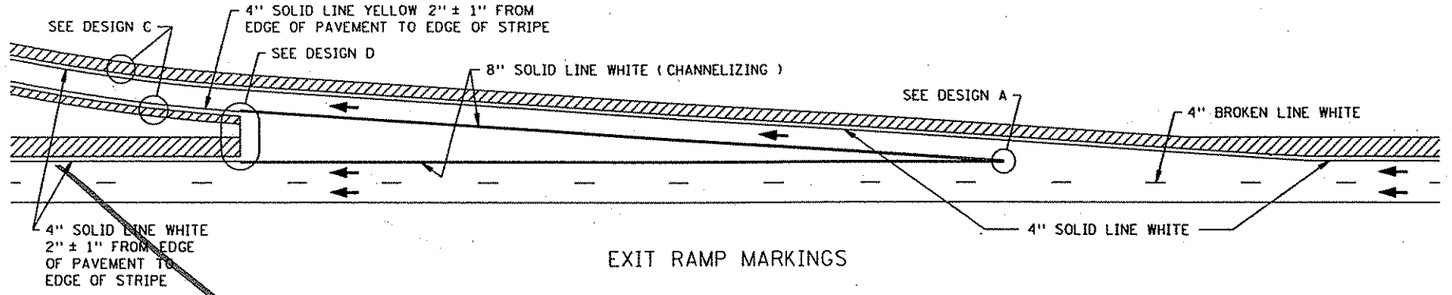
⑧ GRADING TO BE SQUARED OFF ON SKEWED APPROACHES.

⑨ SEE BRIDGE PLANS FOR SLOPE PAVING.

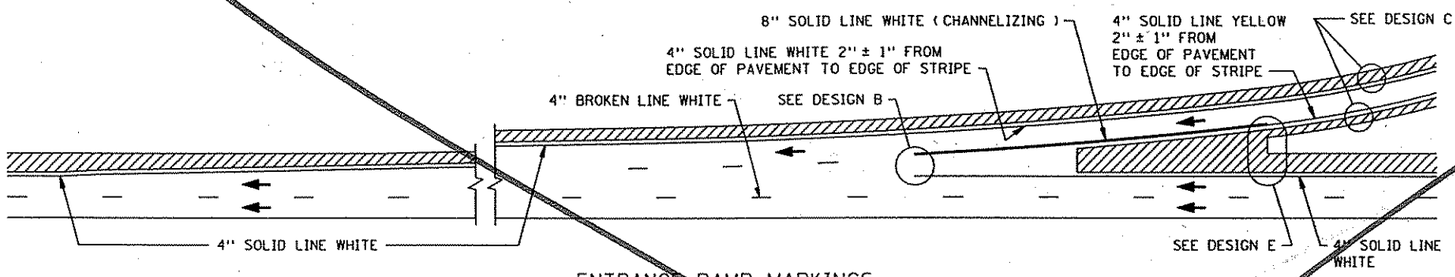
⑩ SUBSURFACE PIPE DRAIN WHEN REQUIRED AS DIRECTED BY THE DISTRICT SOILS ENGINEER. 4 INCH NOM. DIA. PLASTIC PIPE PER SPEC. 3245 PLACED BY THE CONTRACTOR. PERFORATED PIPE TO BE WRAPPED WITH GEOTEXTILE MEETING THE REQUIREMENTS OF SPEC. 3733 TYPE 1. FOUNDATION SHALL BE SHAPED TO FIT LOWER ONE THIRD CIRCUMFERENCE OF PIPE.

STANDARD SHEET NO. 5-297.233	TITLE: BRIDGE APPROACH TREATMENT FOR BOTH HIGH AND LOW ABUTMENTS ON PILING
STANDARD APPROVED: AUGUST 4, 1992	
REVISION DATE 8-20-99	STATE PROJ. NO. 0215-59 (T.H.10) SHEET NO. 57 OF 681 SHEETS

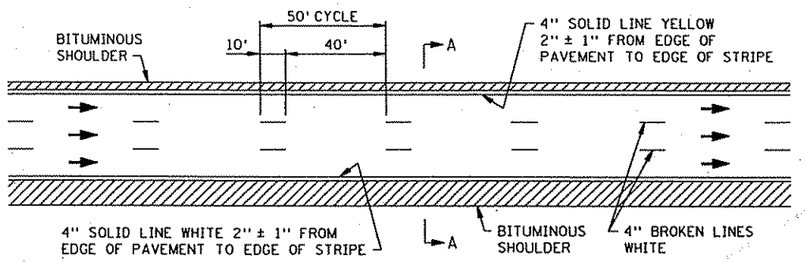
FILE NAME 523_ JPN



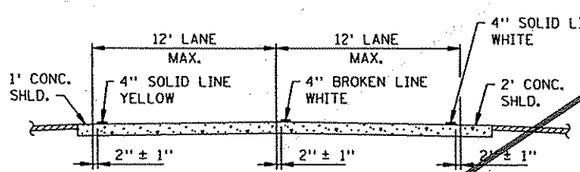
EXIT RAMP MARKINGS



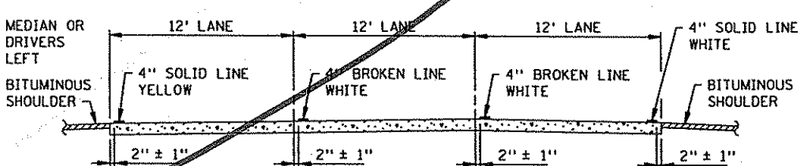
ENTRANCE RAMP MARKINGS



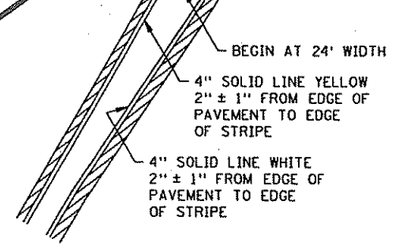
THROUGH LANE MARKINGS



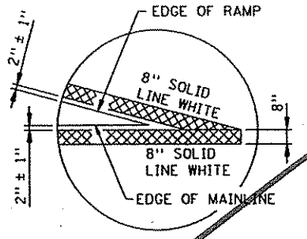
SECTION A-A
(TWO LANES)



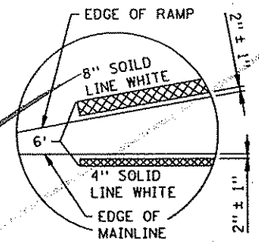
SECTION A-A
(THREE LANES)



RAMP MARKINGS



DESIGN A



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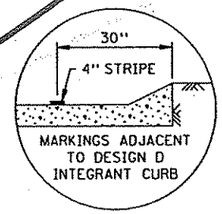
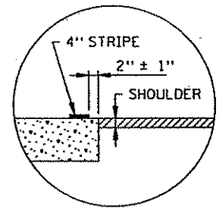


DESIGN C
URBAN



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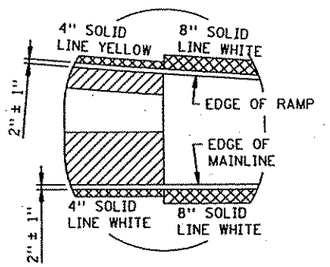
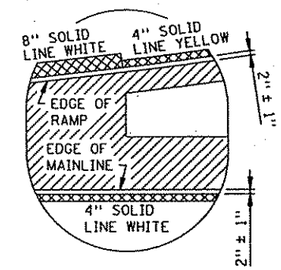
RURAL



DESIGN D
RURAL



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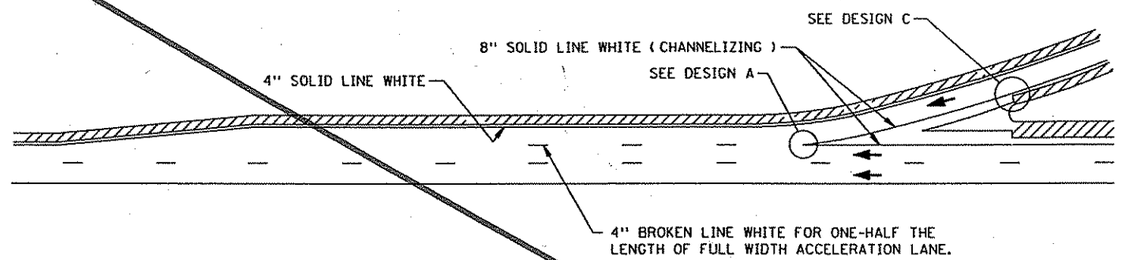

PARALLEL ACCELERATION LANE

NOTES:

▨ DENOTES SHOULDER AREA.

▩ DENOTES SHOULDER AREA.

STANDARD SHEET NO. 5-297.341	TITLE: PAVEMENT MARKING DETAILS
STANDARD APPROVED: MARCH 12, 1998	

FILE NAME S341 .PN

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
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3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
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10. CONSTRUCTION TRAFFIC ONLY

LEGEND

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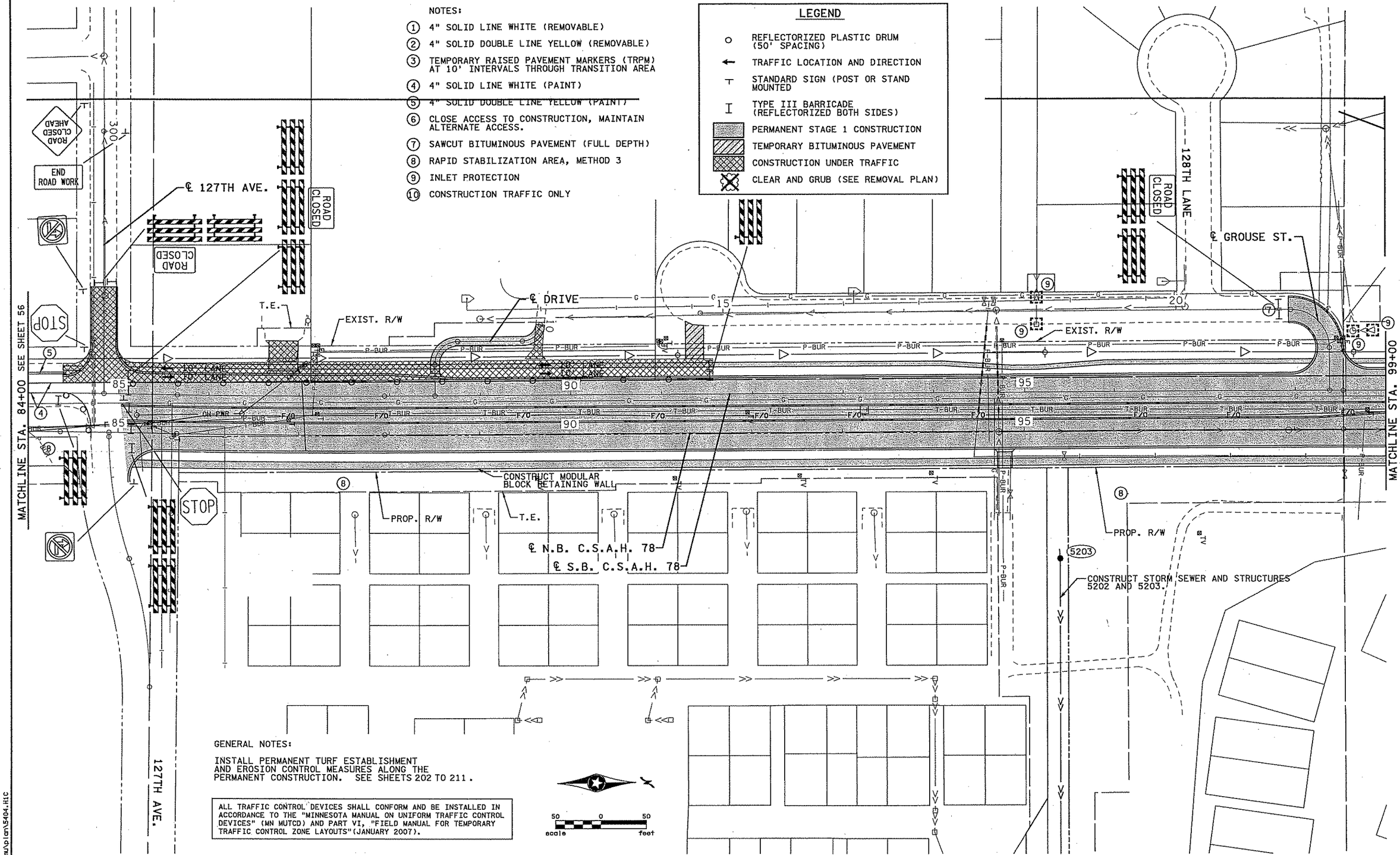
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)



GENERAL NOTES:

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ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

50 0 50
scale feet

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

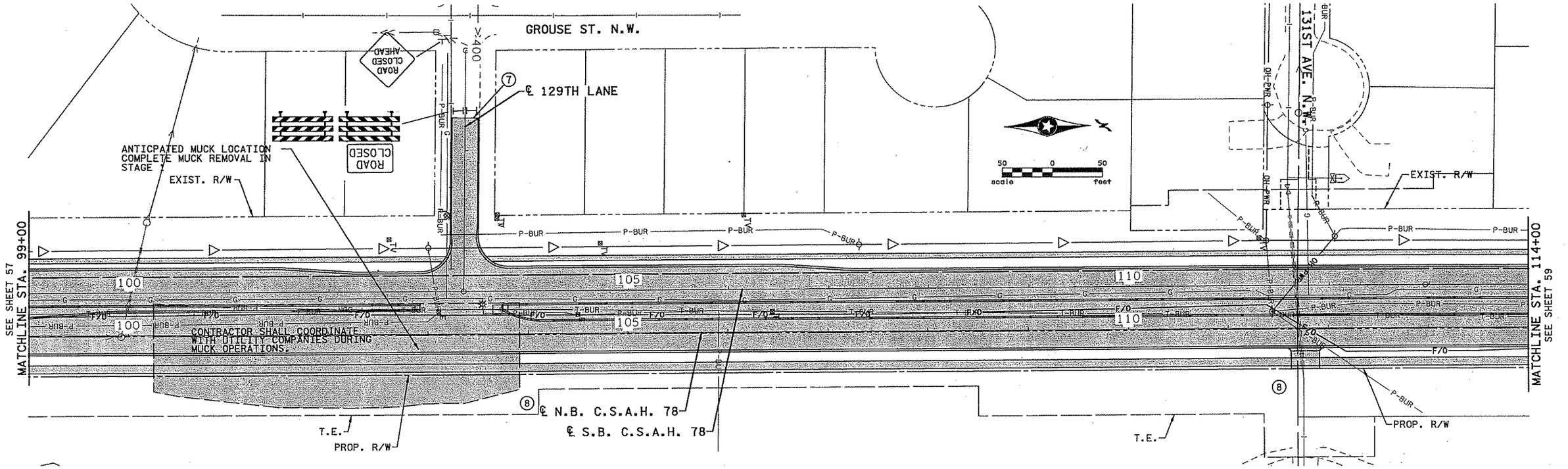
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 1

SHEET 57 OF 400



NOTES:

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NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Chris Trboyevich

Date 6/15/07 License # 41635

STATE AID PROJECT NO. 02-678-16

STATE PROJECT NO. X

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY D.FITCHORN

DESIGNED BY C.TRBOYEVICH

CHECKED BY M. TURNER

COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

STAGE 1

SHEET 58 OF 400

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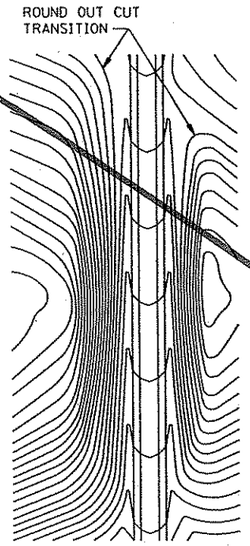
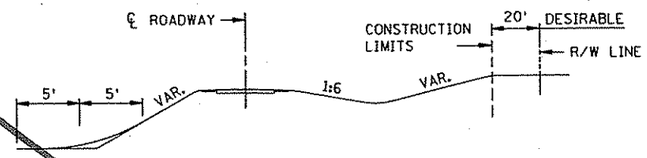
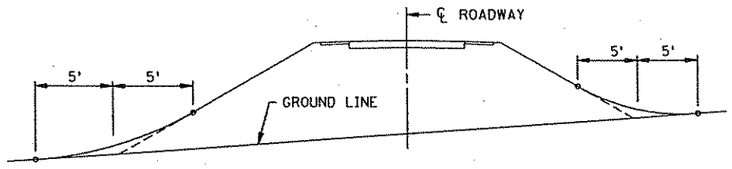


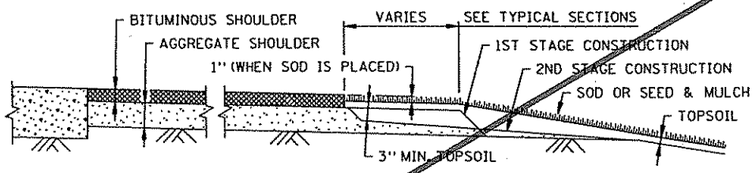
CONTOURING ROAD CUTS



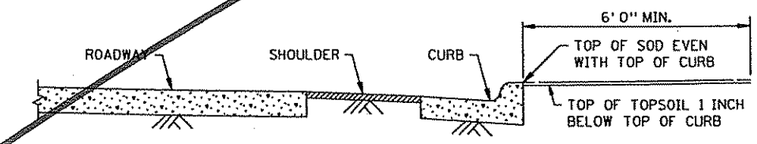
ROUNDING SHOULDERS AND BACKSLOPES



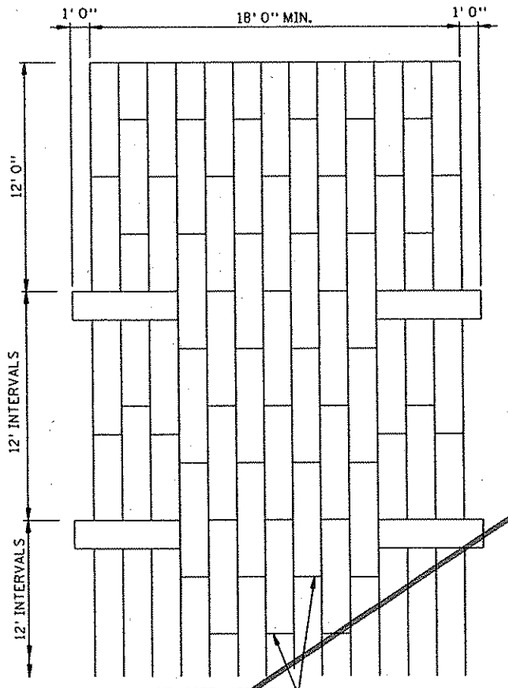
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



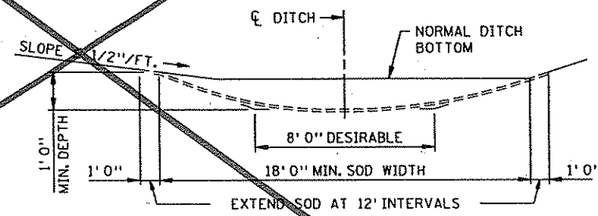
SHAPING AND TOPSOILING INSLOPES



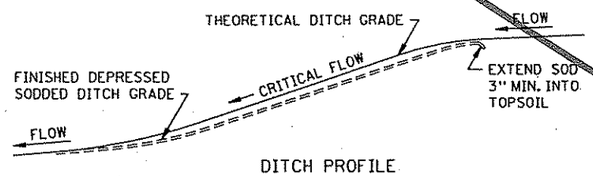
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



PLAN VIEW

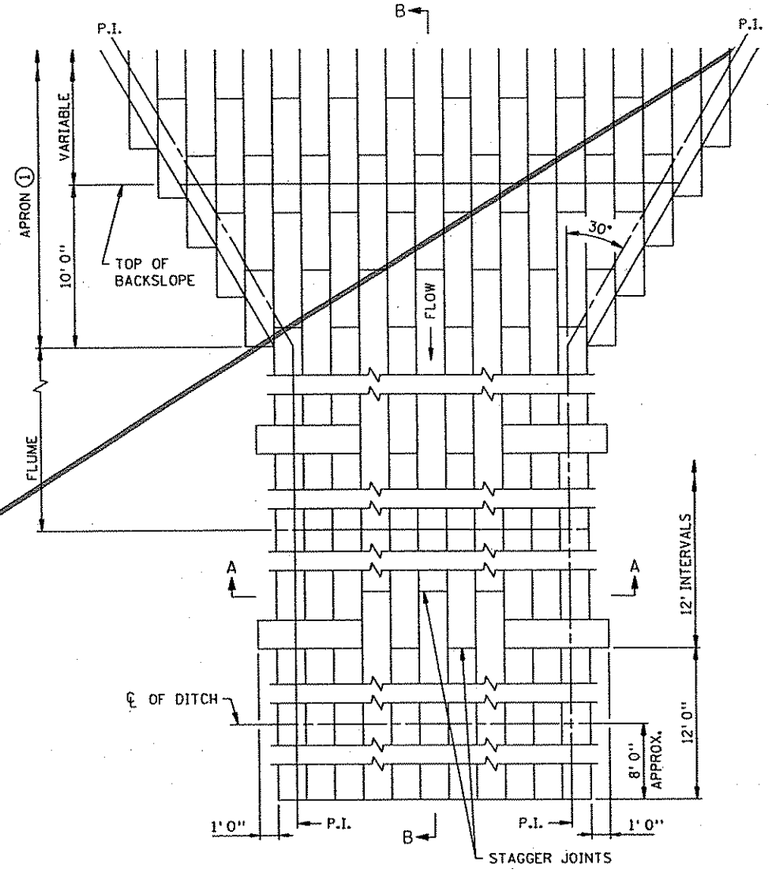


SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.

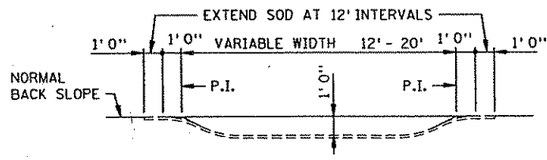


DITCH PROFILE

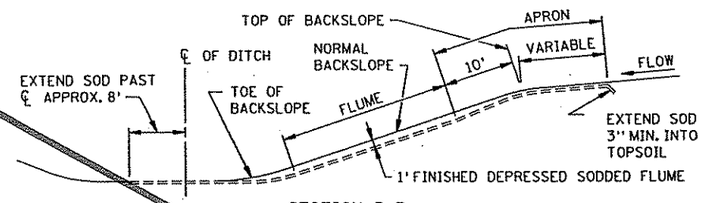
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A

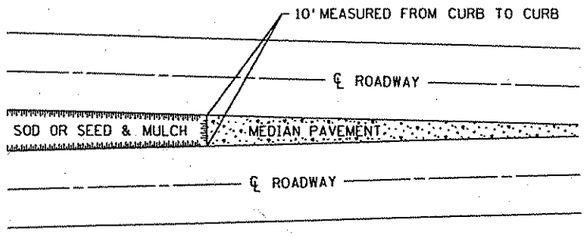


SECTION B-B

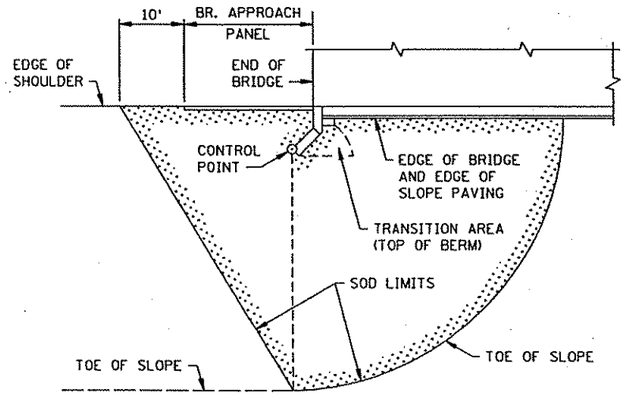
SODDED FLUME DETAILS

NOTES:
SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
(1) CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

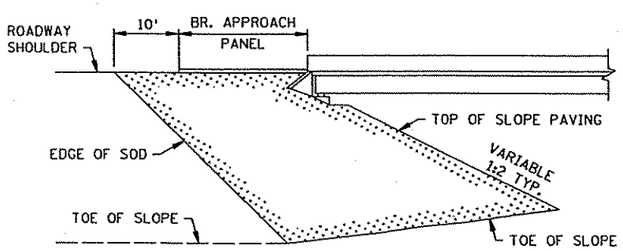
STANDARD SHEET NO. 5-297.404	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: NOVEMBER 20, 2002	
STATE PROJ. NO. 0215-59 (T.H. 10)	SHEET NO. 59 OF 681 SHEETS



SODDING LIMITS AT GORE AREA

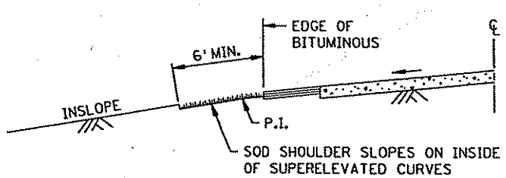


PLAN

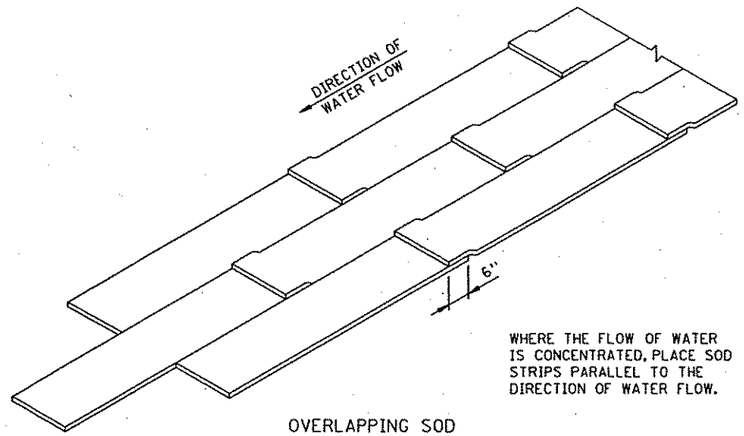


ELEVATION

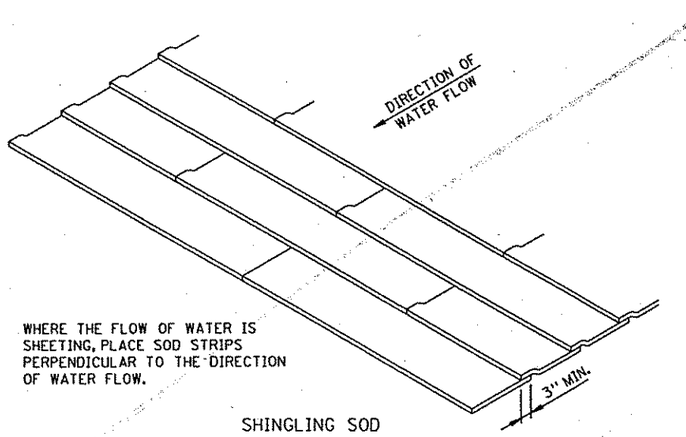
SODDING LIMITS AT BRIDGE APPROACH FILLS



SODDING INSLOPES OF SUPERELEVATED CURVES

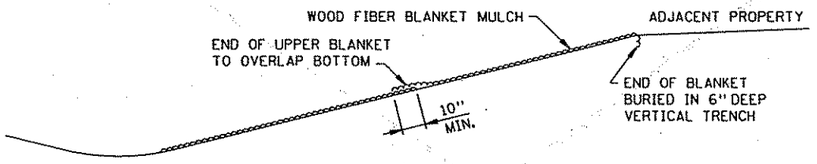


OVERLAPPING SOD

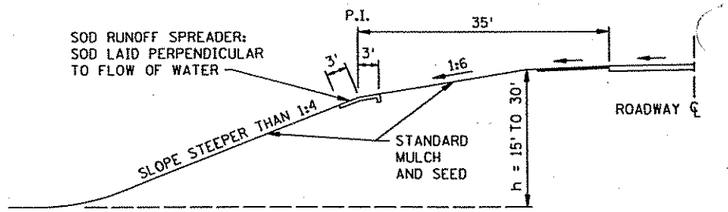


SHINGLING SOD

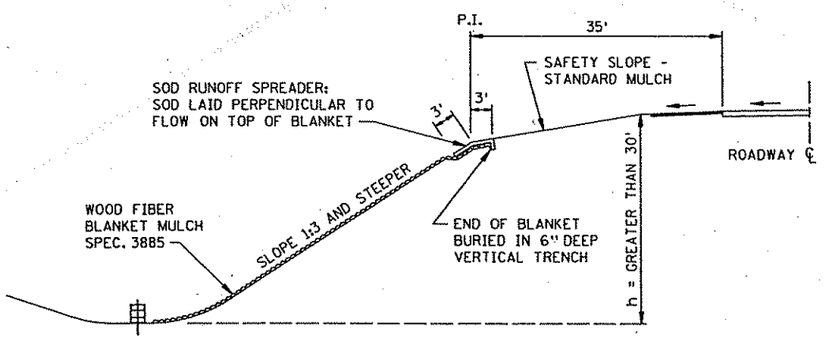
SPECIAL SOD PLACEMENT TECHNIQUES



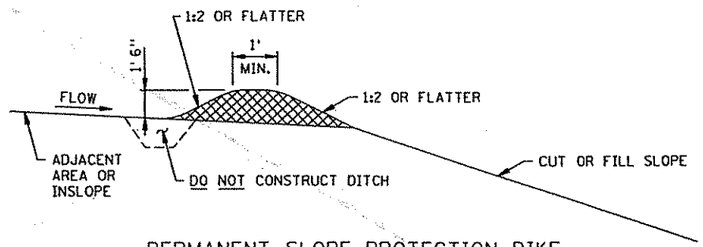
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



BROKEN-BACK SAFETY FILL SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE
(WHEN REQUIRED)



PERMANENT SLOPE PROTECTION DIKE

STANDARD SHEET NO. 5-297.406	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS
STANDARD APPROVED: JANUARY 31, 1985	
REVISION DATE 10-26-2000	STATE PROJ. NO. 0215-59 (T.H. 10) SHEET NO. 59A OF 681 SHEETS

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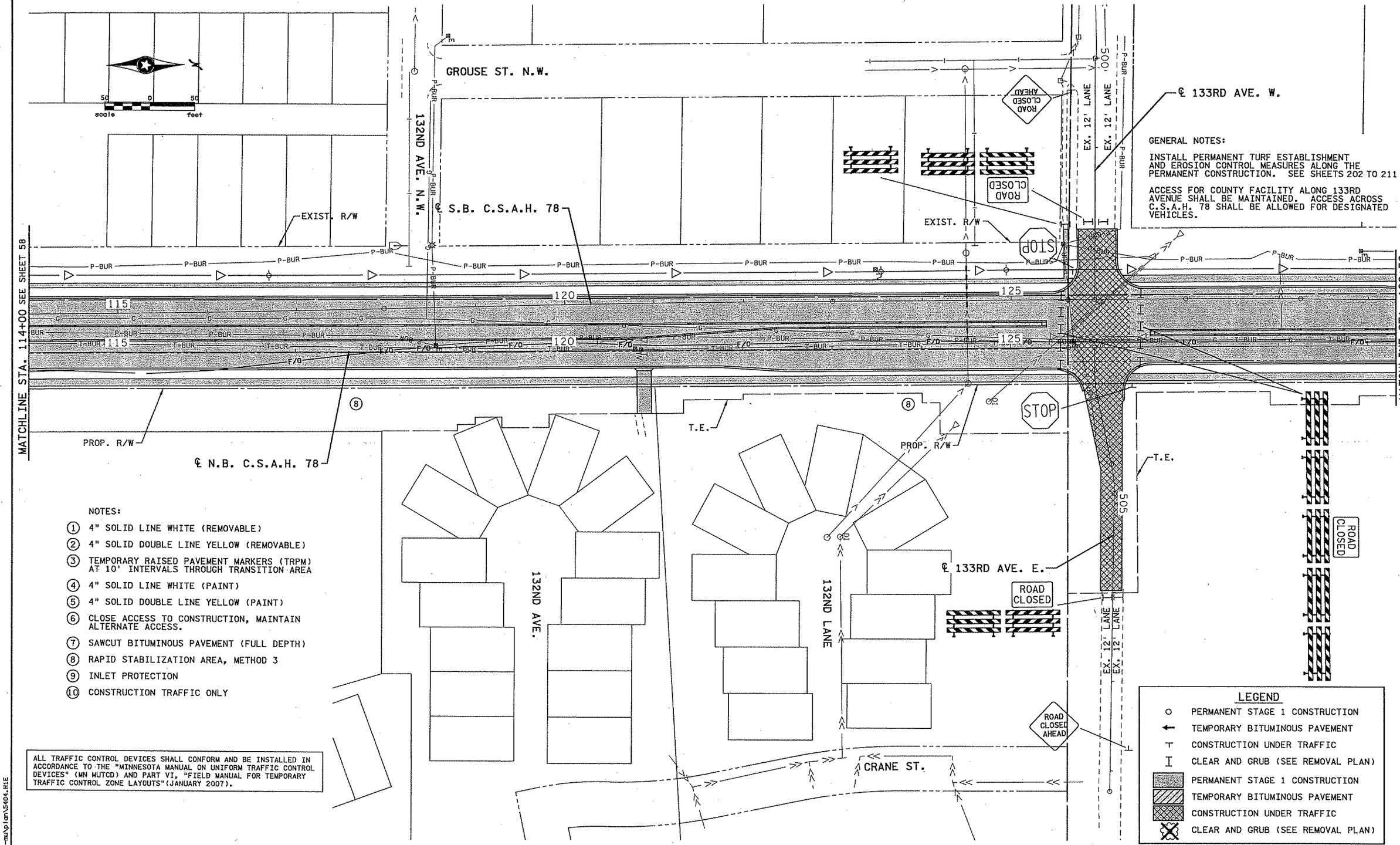
PATH & FILE NAME:
IPLOT NAME: PLOT$NAME@$$
FILE NAME S406. .SPN



GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

ACCESS FOR COUNTY FACILITY ALONG 133RD AVENUE SHALL BE MAINTAINED. ACCESS ACROSS C.S.A.H. 78 SHALL BE ALLOWED FOR DESIGNATED VEHICLES.

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

LEGEND

- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
...\5404\hl-mu\plan\5404.H1E					

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO. 02-678-16

STATE PROJECT NO. X

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY D.FITCHORN

DESIGNED BY C.TRBOYEVICH

CHECKED BY M. TURNER

COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLAN

C.S.A.H. 78

STAGE 1

SHEET 59 OF 400

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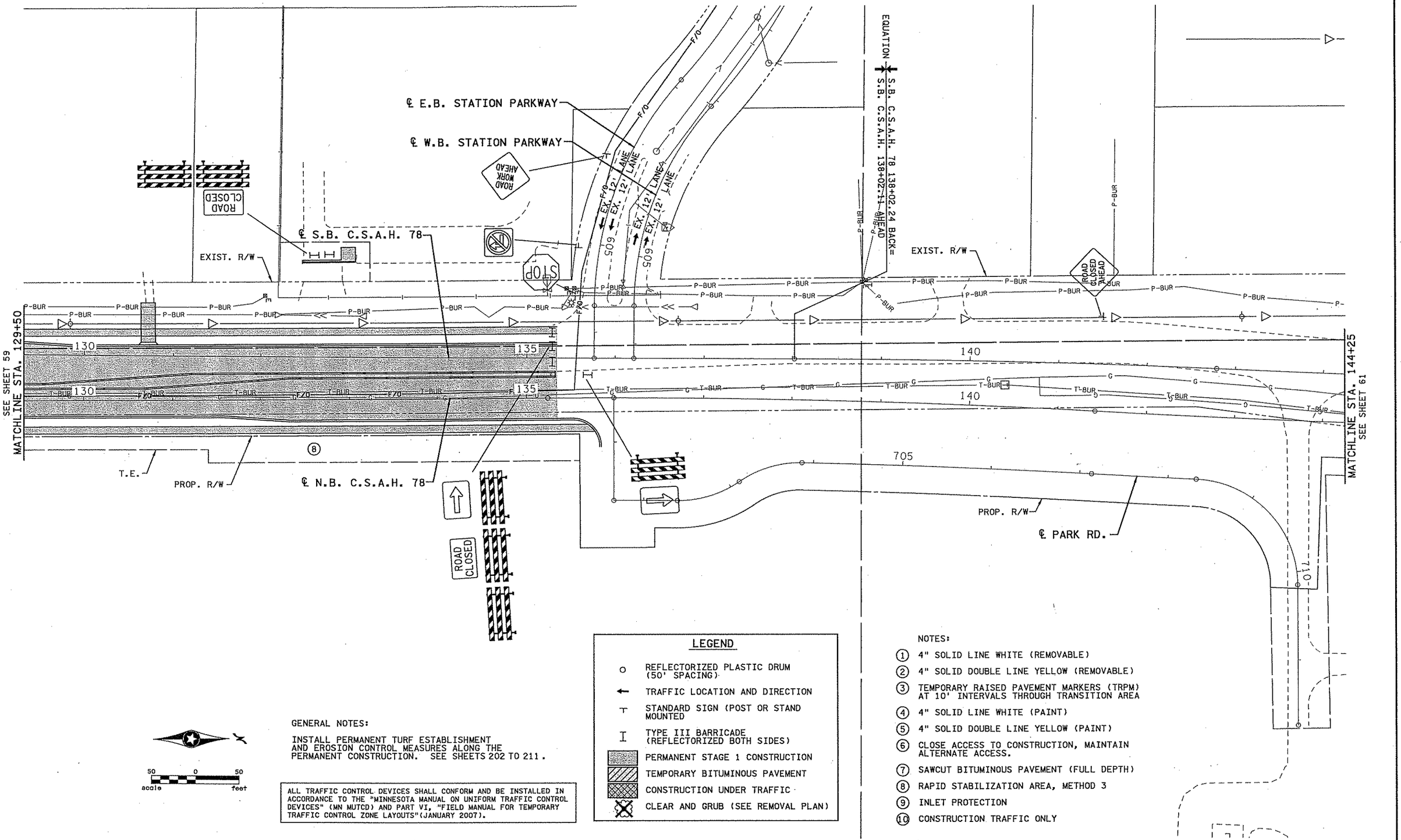

GENERAL NOTES:

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50 0 50
scale feet

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

NOTES:

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9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\h1-mu\plan\5404.H1F

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: CHRIS M. TRBOYEVICH
Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 1

SHEET 60 OF 400

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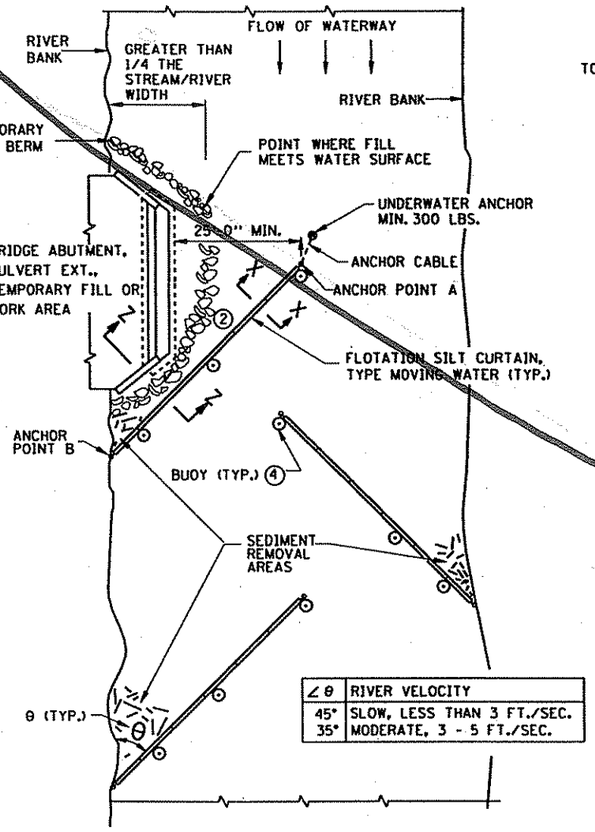
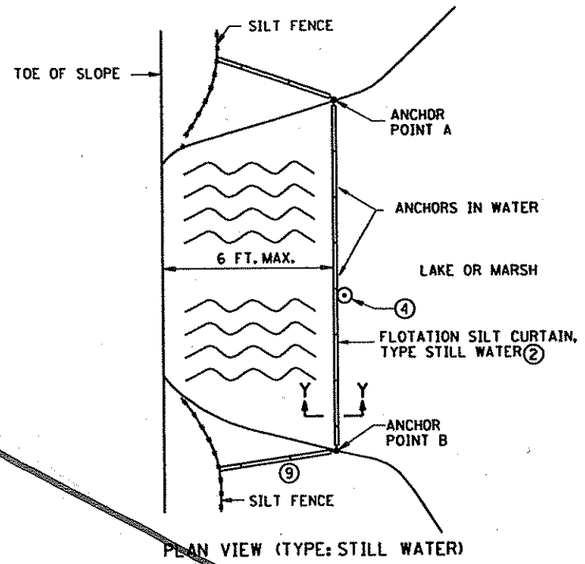
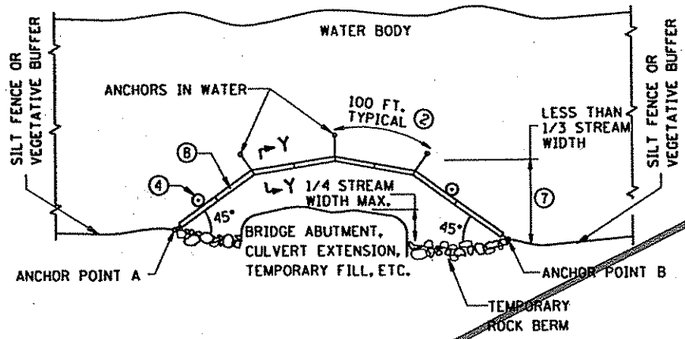


∠ θ	RIVER VELOCITY
45°	SLOW, LESS THAN 3 FT./SEC.
35°	MODERATE, 3 - 5 FT./SEC.

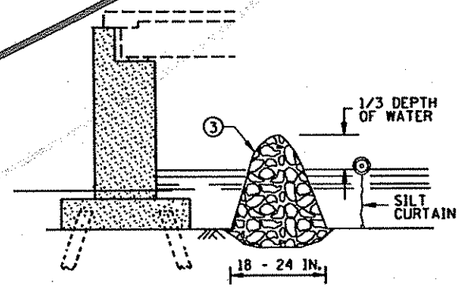
PLAN VIEW (TYPE: MOVING WATER)



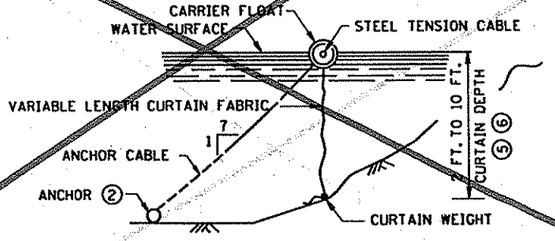
PLAN VIEW (TYPE: STILL WATER)



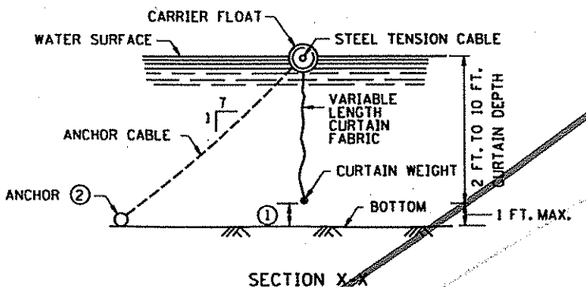
PLAN VIEW (TYPE: WORK AREA)



SECTION Z-Z TEMPORARY ROCK BERM
FOR SEDIMENT CONTROL



SECTION Y-Y



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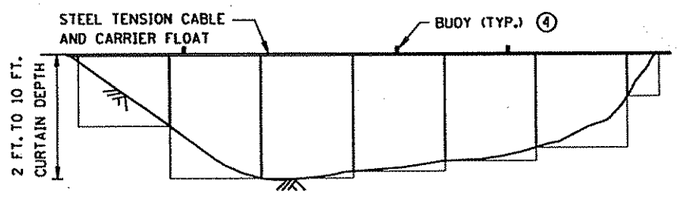
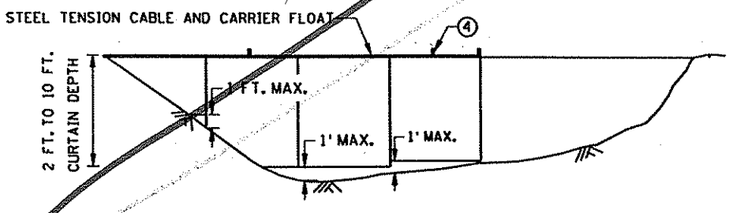


FLOTATION SILT CURTAIN - TYPE: WORK AREA AND STILL WATER ⑤

FOR CONTAINING OVERFLOWS FROM WEIRS, STANDPIPES, SETTLING PONDS



FLOTATION SILT CURTAIN - TYPE: MOVING WATER ⑤

USE FOR SMALLER RIVERS WITH SLOW AND MODERATE VELOCITIES

DESIGN GUIDELINES: MOVING WATER

WHEN TEMPORARY FILL ENCROACHES MORE THAN 1/4 BUT LESS THAN 1/3 WIDTH OF THE STREAM. ①⑥
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER DEPTH: 11 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.

DESIGN GUIDELINES: WORK AREA

WHEN TEMPORARY FILL ENCROACHES LESS THAN 1/4 OF THE WIDTH OF STREAM.
MAXIMUM WATER DEPTH: 10 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.

DESIGN GUIDELINES: STILL WATER ⑥

MINIMUM WATER DEPTH: 0 FT.
MAXIMUM WATER DEPTH: 10 FT.

NOTES:

SEE SPECS. 2573 & 3887.

① CURTAIN EXTENDS TO 1 FT. MAXIMUM FROM BOTTOM OF WATER BODY.

② FOR ANCHOR AND WEIGHT REQUIREMENTS, SEE SPEC. 2573.

③ IN AREAS WHERE THE PLAN CALLS FOR RIPRAP AT THE BRIDGE, A TEMPORARY ROCK BERM WILL BE USED TO PROVIDE ADDITIONAL PROTECTION. THE TEMPORARY ROCK BERM IS INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

④ ON U.S. COAST GUARD OR OTHER MOTORIZED WATERWAYS, BUOYS ARE REQUIRED TO MARK THE ENDS AND SPECIAL AREAS FOR VISIBILITY. PLACE BUOYS AS REQUIRED FOR NAVIGATIONAL PURPOSES.

⑤ WATER DEPTH CAN BE 0 TO 10 FEET, 0 TO 11 FEET FOR TYPE MOVING WATER.

⑥ SILT CURTAIN HEIGHT INCLUDES MAXIMUM WAVE HEIGHT FOR WATER BODY.

⑦ KEEP AS CLOSE TO WORK AREA AS POSSIBLE.

⑧ SILT CURTAIN, ROCK BERM OR SHEET PILE AS REQUIRED TO CONTROL THE INFILTRATION OF SILT.

⑨ IF 6 INCHES OR LESS OF WATER, USE BALE BARRIERS, SEE SHEET 2.

STANDARD SHEET NO. 5-297.405 (1 OF 4)	TITLE: TEMPORARY SEDIMENT CONTROL SILT CURTAIN
STANDARD APPROVED: SEPTEMBER 27, 2006	

STATE PROJ. NO. 0215-59 (T.H. 10) SHEET NO. 60 OF 681 SHEETS

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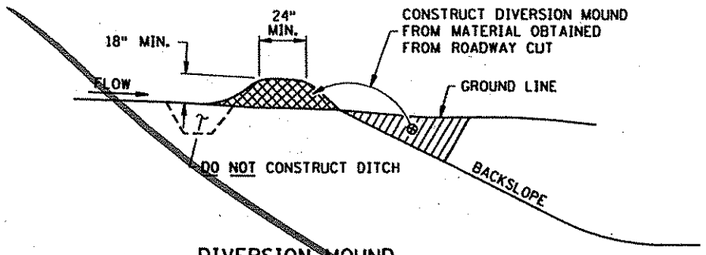
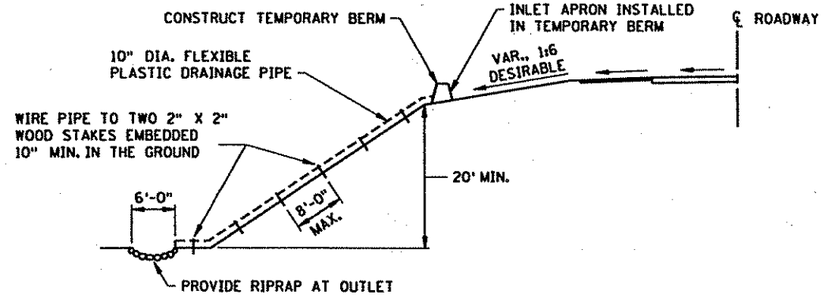
FILE NAME S40_SPN.DGN PATH & FILE NAME:



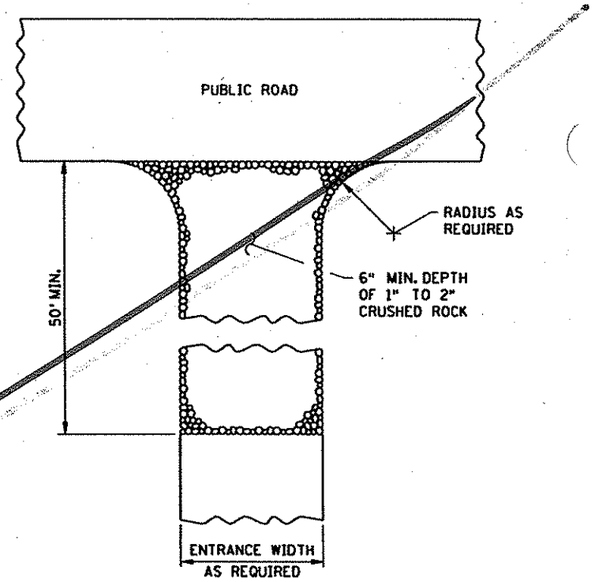
DIVERSION MOUND

DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 5 ACRES
MAXIMUM DIVERSION: GRADE 5%

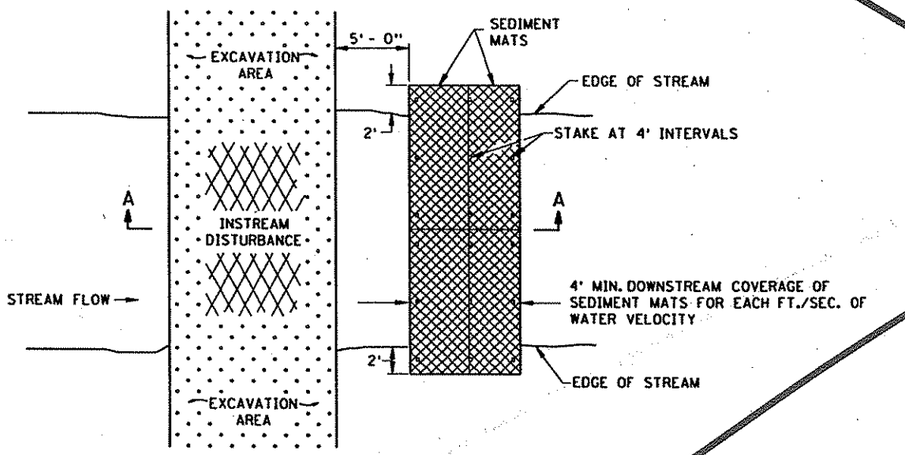


TEMPORARY DOWN DRAIN ON FILL SLOPE

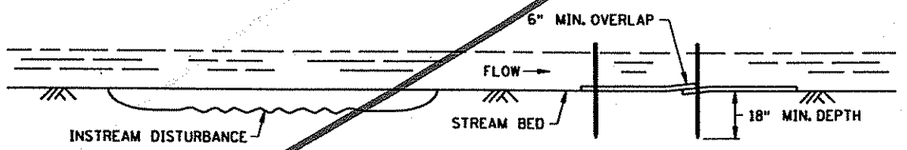
DESIGN GUIDELINES:
STORM FREQUENCY: 2 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 3 ACRES



ROCK CONSTRUCTION ENTRANCE ①



PLAN VIEW

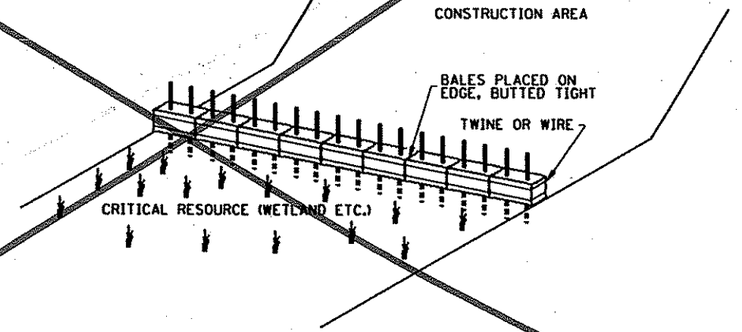


SECTION A-A

SEDIMENT MAT ⑥

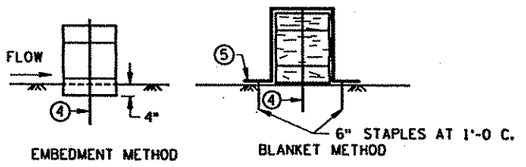
TYPICAL STREAM BED INSTALLATION

DESIGN GUIDELINES:
MAXIMUM FLOW VELOCITY: 5 FT./SEC.
MAXIMUM FLOW DEPTH: 2 FT.



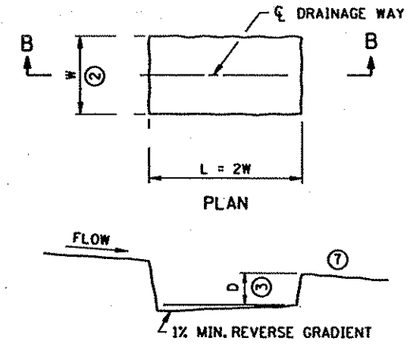
BALE BARRIERS

TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS



BALE BARRIER DETAIL

APPROX. BALE SIZE: 14" X 18" X 36" LONG



PLAN

SECTION B-B

SEDIMENT TRAP DETAIL

NOTES:
SEE SPECS. 2573, 3892, & 3894.

1. ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE TRUCKS ENTER MAIN ROAD. KEEPING MUD OFF THE ROAD WILL PREVENT AUTO DAMAGE AND KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS. GEOTEXTILE MAY BE PLACED UNDER THE ROCK TO KEEP ROCKS SEPARATE FROM SOIL.
2. W = 10 FT. MIN., 20 FT. MAX.
3. D = 2 FT.
4. TWO 2 IN. X 2 IN. WOOD STAKES OR REINFORCING BARS IN EACH BALE EMBEDDED 10 INCHES MINIMUM IN THE GROUND.
5. PLACE A CATEGORY 3 EROSION CONTROL BLANKET, 6 FT. WIDE MINIMUM, OVER THE BALE INSTEAD OF TRENCHING.
6. THIS DETAIL MAY NOT BE ACCEPTABLE FOR WORK ON PUBLIC WATERS, SEE GENERAL PUBLIC WATERS PERMIT (GP) 2004-0001.
7. LOCATION OF DOWNSTREAM TEMPORARY SEDIMENT CONTROL DEVICE.

STANDARD SHEET NO.	TITLE:
5-297.405 (2 of 4)	TEMPORARY SEDIMENT CONTROL MISCELLANEOUS DETAILS
STANDARD APPROVED: SEPTEMBER 27, 2006	

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
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10. CONSTRUCTION TRAFFIC ONLY

GENERAL NOTES:

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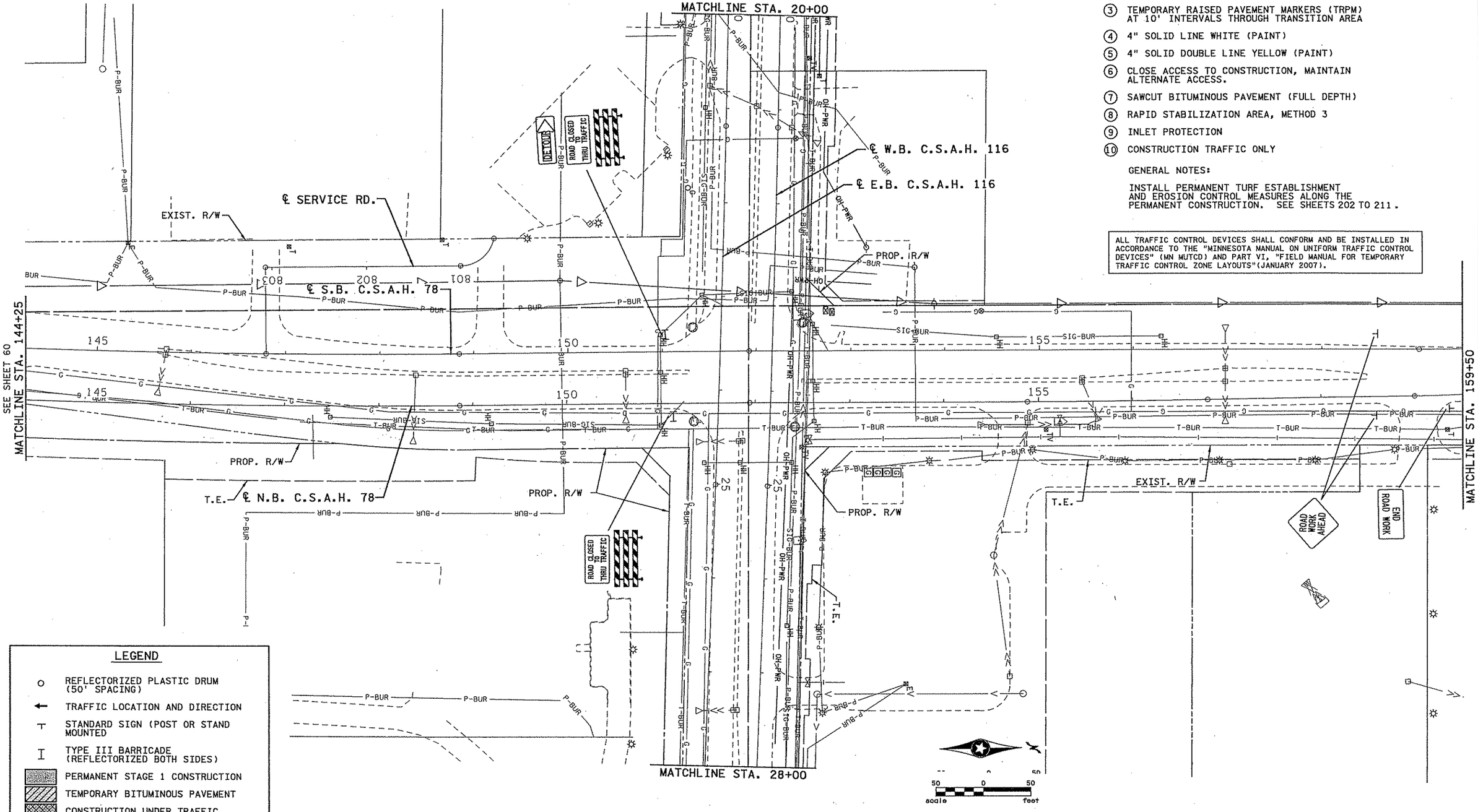

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 1 CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
...\5404\hl-mu\plan\5404.H1G					

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Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

STAGE 1

SHEET 61 OF 400

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LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2A CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

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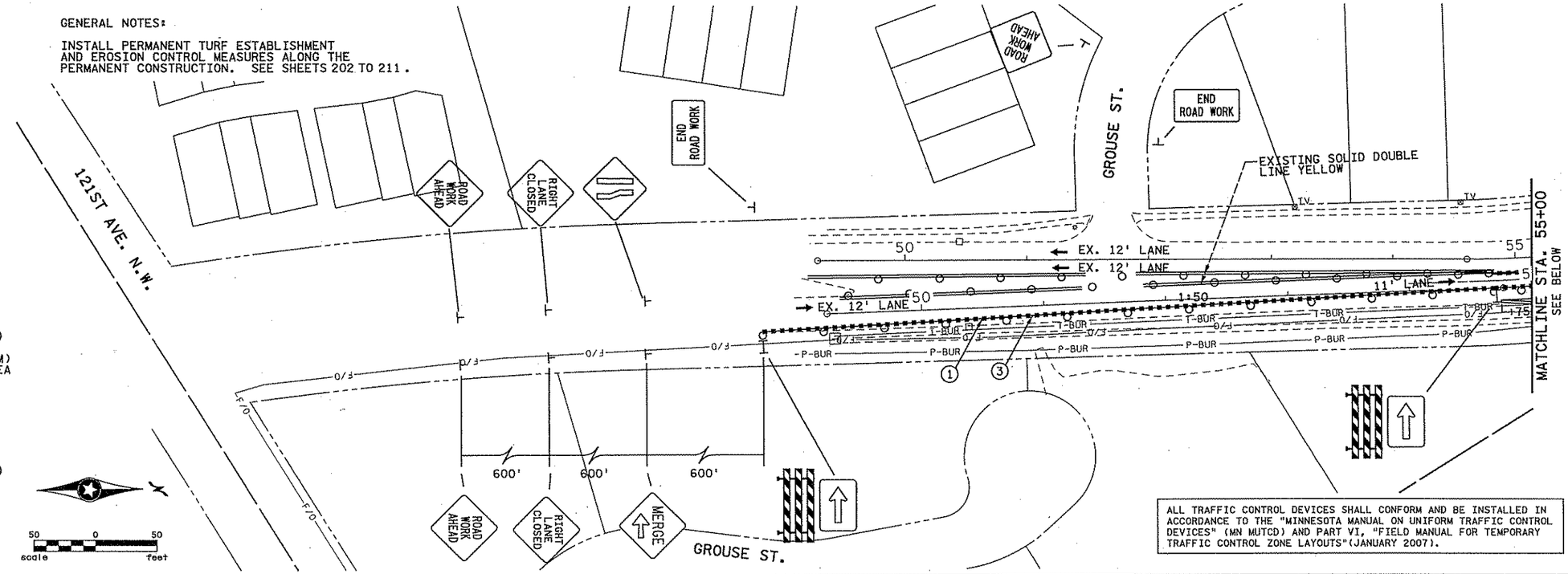
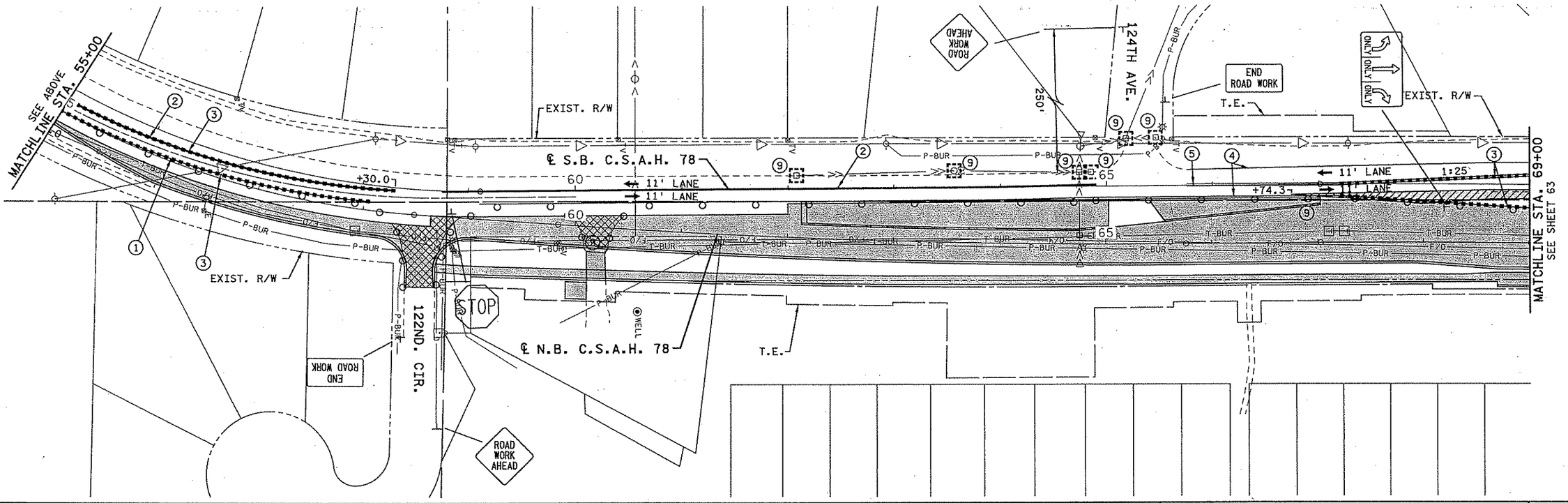
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.





NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
...\5404\hl-mu\Plan\5404.h2a					

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2A

SHEET 62 OF 400

10:49:50 AM
6/15/2007
n:\projects\5404\hl-mu\Plan\5404.h2a

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$$$$PATHFILENAME@$$
PLOT NAME: $$$$OT$NAME@$$ PATH & FILE NAME:
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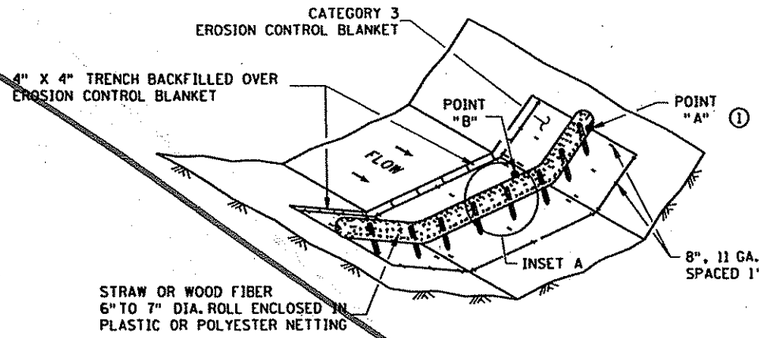
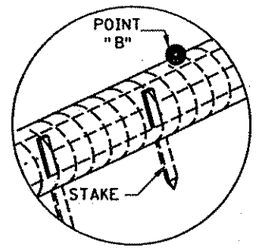
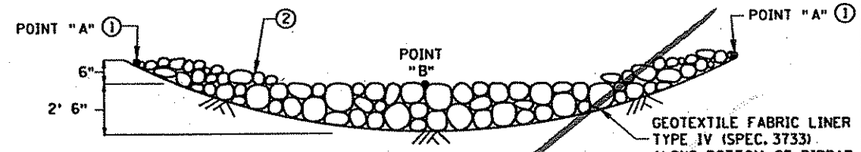


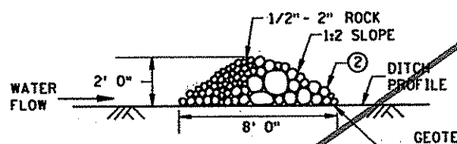
TYPE 3: BIOROLL BLANKET SYSTEM DITCH CHECK



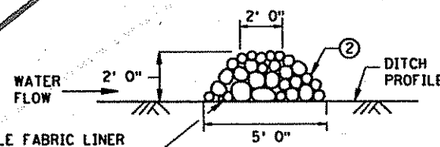
INSET A



CROSS SECTION (ROCK WEEPER AND ROCK CHECK)



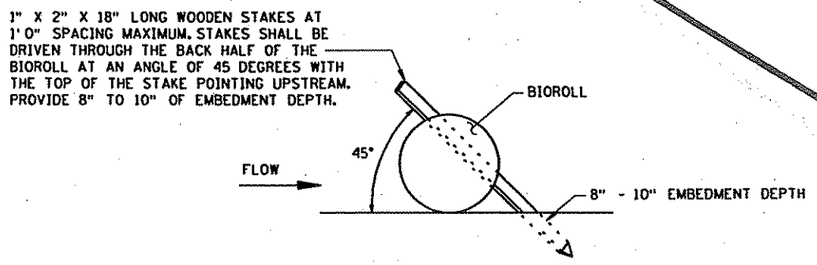
TYPE 5: ROCK WEEPER PROFILE VIEW ③



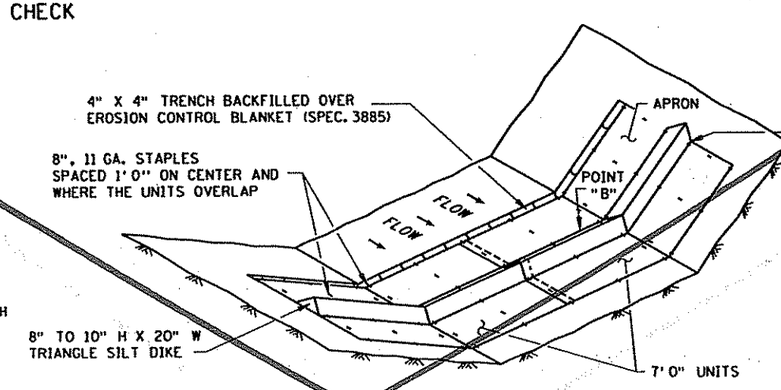
TYPE 7: ROCK CHECK PROFILE VIEW

TYPE 5: ROCK WEEPER AND
TYPE 7: ROCK CHECK DITCH CHECKS ④

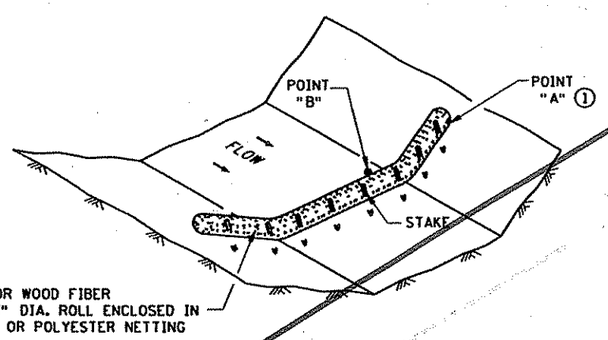
USE ON ROUGH GRADED AREAS



BIOROLL STAKING DETAIL

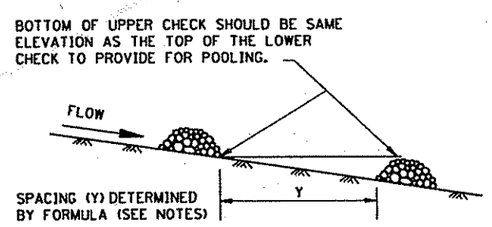


TYPE 6: GEOTEXTILE TRIANGULAR DIKE DITCH CHECK

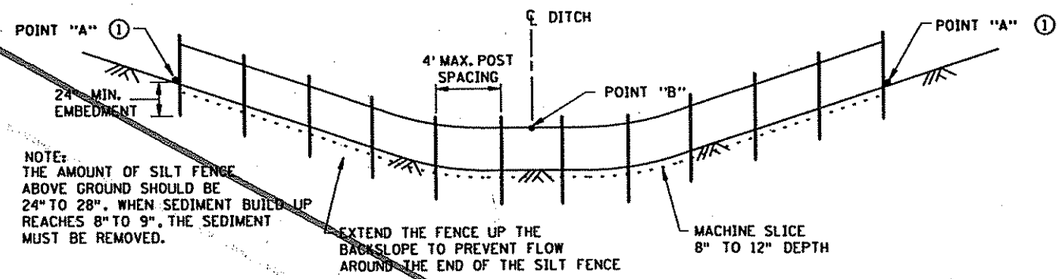


TYPE 2: BIOROLL DITCH CHECK

USE ON ROUGH GRADED AREAS



DITCH CHECK SPACING ④



TYPE 1: SLICED IN SILT FENCE DITCH CHECK

GENERAL DESIGN GUIDELINES						
DITCH CHECK TYPE	SILT FENCE	BIOROLL	BIOROLL BLANKET	TRIANGULAR DIKE	ROCK WEEPER	ROCK CHECK
STORM FREQUENCY: MAX. FLOW VELOCITY: MAX. DITCH GRADE: MAX. DRAINAGE AREA:	2 YR. - 24 HR. < 1 FT./SECOND 0% - 0.5% 1 ACRE	2 YR. - 24 HR. 1.5 FT./SECOND 1.5% - 3% 2 ACRE	2 YR. - 24 HR. 4.5 FT./SECOND 1.5% - 3% 2 ACRE	2 YR. - 24 HR. 1.5 FT./SECOND 1.5% - 2.0% 4 ACRE	5 YR. - 24 HR. 12 FT./SECOND 3% - 5% 4+ ACRE	5 YR. - 24 HR. 12 FT./SECOND 3% - 5% 4+ ACRE

NOTES:

SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.

APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:

$$\text{APPROXIMATE SPACING OF DITCH CHECKS (FT.)} = Y = \frac{\text{DITCH CHECK HEIGHT (FT)}}{\text{\% CHANNEL SLOPE}} \times 100$$

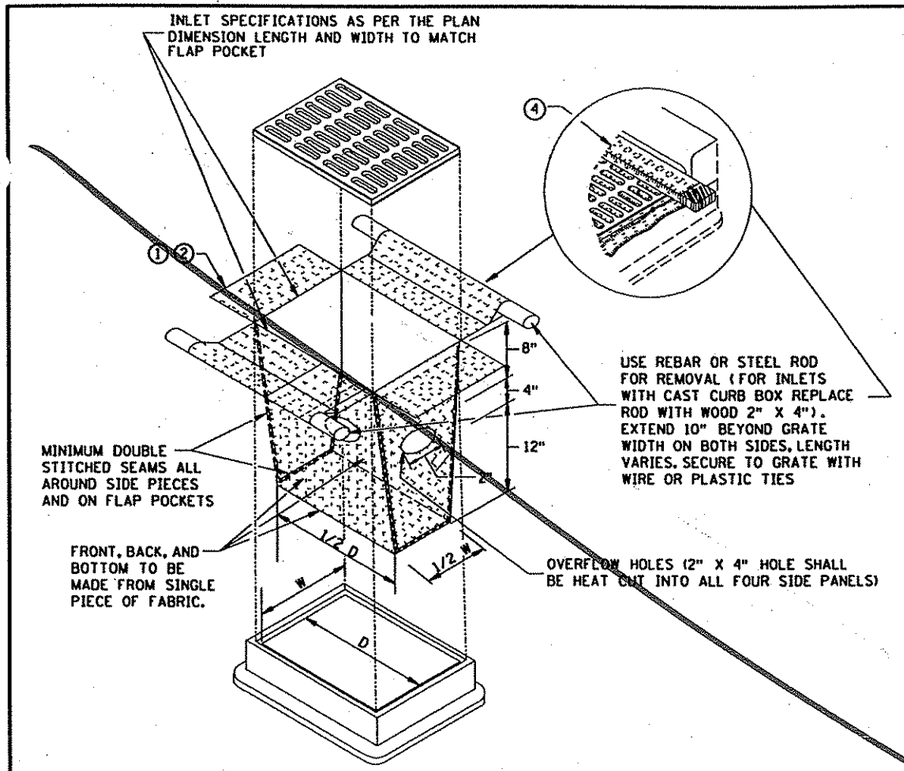
① POINT "A" MUST BE A MINIMUM OF 6 INCHES HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

② CLASS I - IV RIPRAP (SPEC. 3601) WITH GEOTEXTILE FABRIC LINER, TYPE IV (SPEC. 3733).

③ THE ROCK WEEPER FILTERS SEDIMENT OUT OF THE WATER BETTER THAN THE OTHER DITCH CHECKS. THE ROCK WEEPER COULD BE USED AS A PERMANENT WATER FILTERING FEATURE.

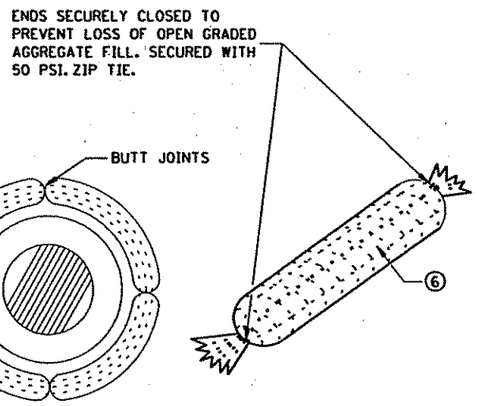
④ PERMANENT ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE WILL NEED TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.

STANDARD SHEET NO. 5-297.405 (3 OF 4)	TEMPORARY SEDIMENT CONTROL DITCH CHECK/BARRIER
STANDARD APPROVED: SEPTEMBER 27, 2006	

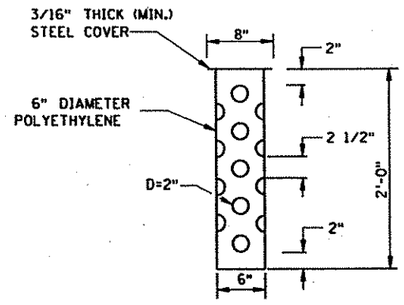


FILTER BAG INSERT ③

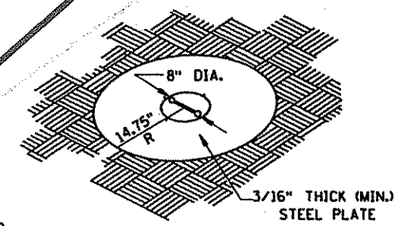
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)



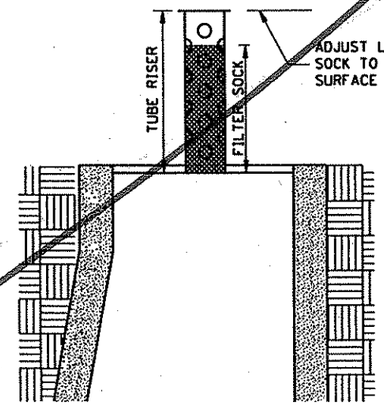
ROCK LOG/COMPOST LOG



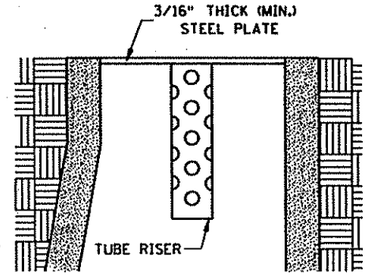
TUBE RISER



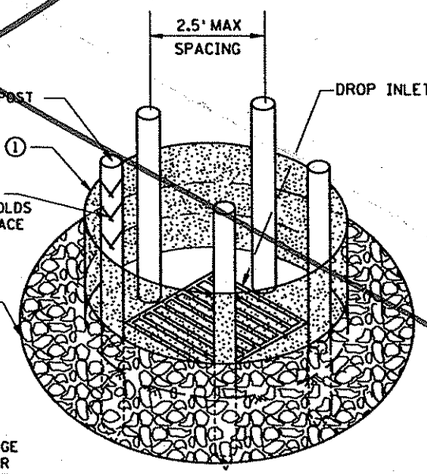
PERSPECTIVE VIEW



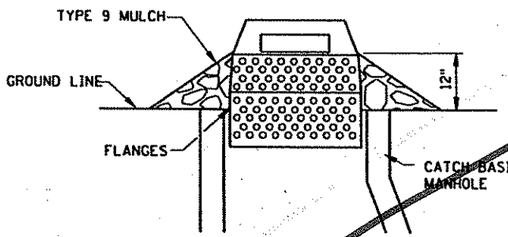
SECTION (UP POSITION)



SECTION (DOWN POSITION)

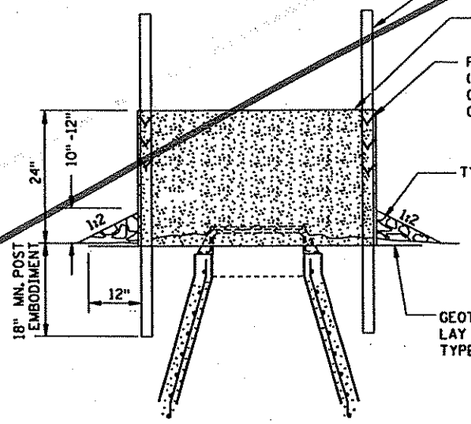


POP-UP HEAD



SEDIMENT CONTROL INLET HAT

NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 or LESS

NOTES:

SEE SPECS. 2573, 3137, 3886 & 3891.

MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.

① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.

② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

③ INSTALLATION NOTES:
DO NOT INSTALL FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.

④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.

⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.

⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

STANDARD SHEET NO. 297.405 (4 OF 4)	TITLE: TEMPORARY SEDIMENT CONTROL STORM DRAIN INLET PROTECTION
STANDARD APPROVED: SEPTEMBER 27, 2006	

STATE PROJ. NO. 0215-59 (T.H. 10) SHEET NO. 63 OF 681 SHEETS

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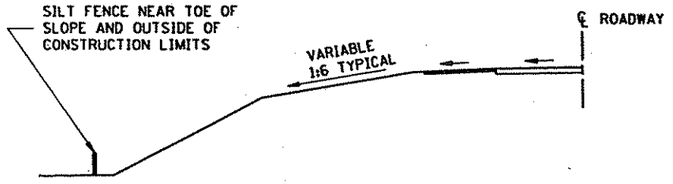
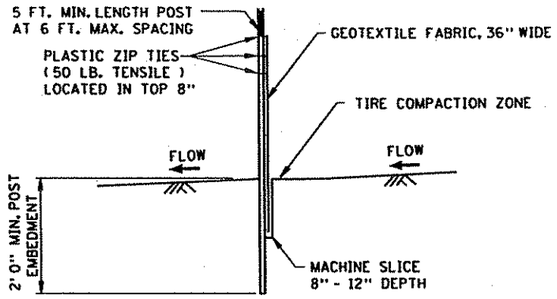
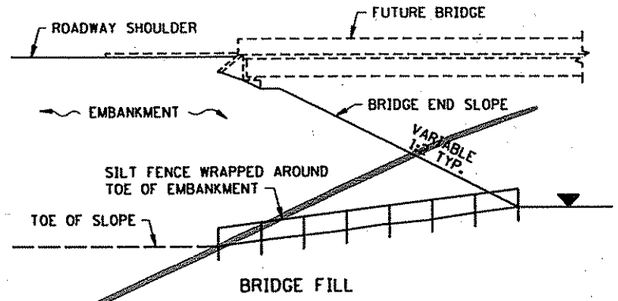
PATH & F $$$PATH
IPLOT NAME: $$$IPLOT$NAME$$$
FILE NAME S40 _SPN.DGN



LOCATION OF SILT FENCE
AT TOE OF ROADWAY EMBANKMENT

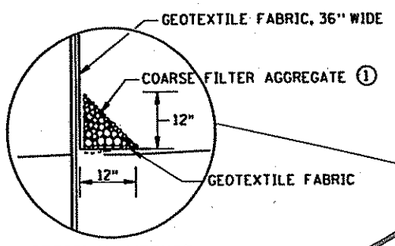


SILT FENCE, MACHINE SLICED
DESIGN GUIDELINES:
TO PROTECT AREAS FROM SHEET FLOW.
MAXIMUM CONTRIBUTING AREA: 1 ACRE.

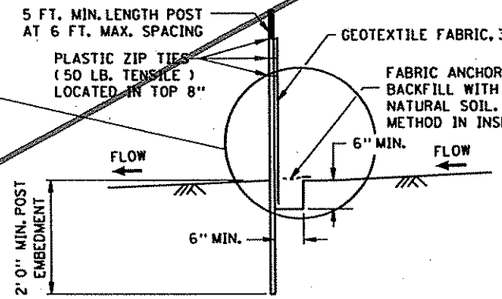


BRIDGE FILL

DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: STAGNANT
CONTRIBUTING SLOPE AREA: 1/2 ACRE

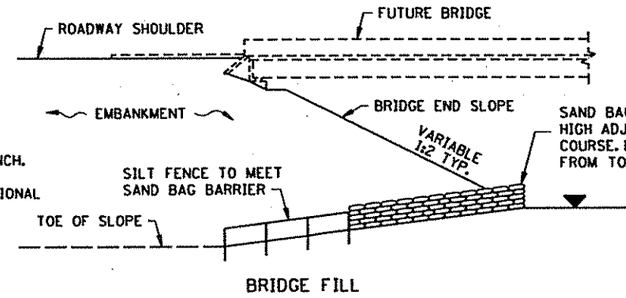


OPTIONAL METHOD
FOR SILT FENCE, HEAVY DUTY



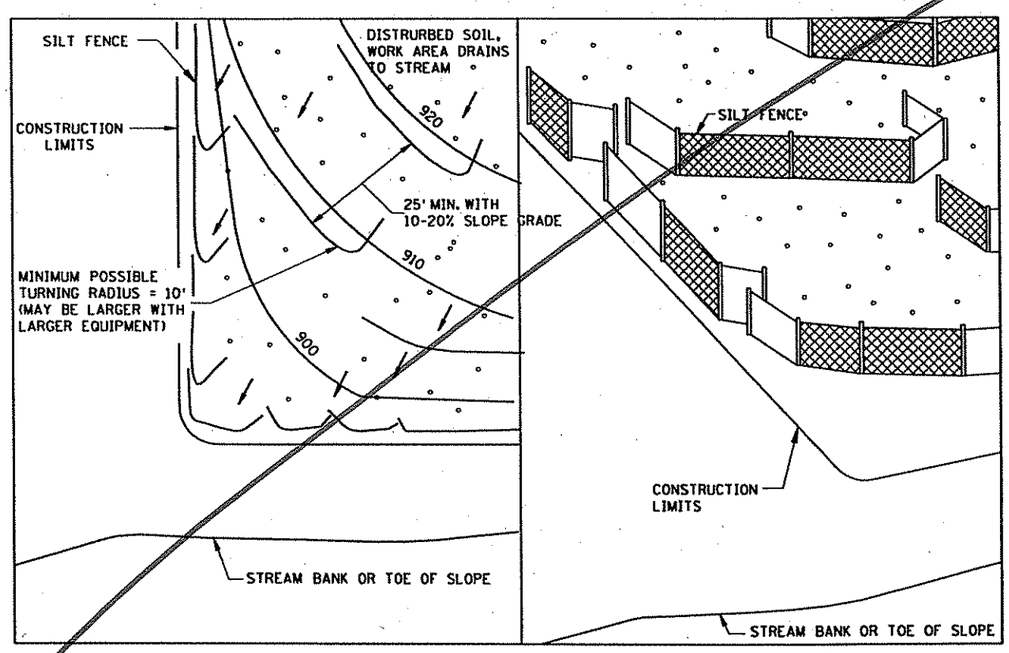
SILT FENCE, HEAVY DUTY
(HAND INSTALLED)

DESIGN GUIDELINES:
TO PROTECT AREAS FROM SHEET FLOW.
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



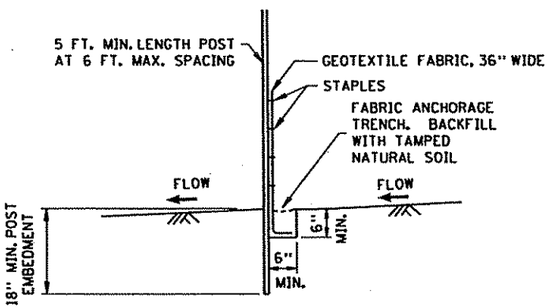
BRIDGE FILL

DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1 ACRE



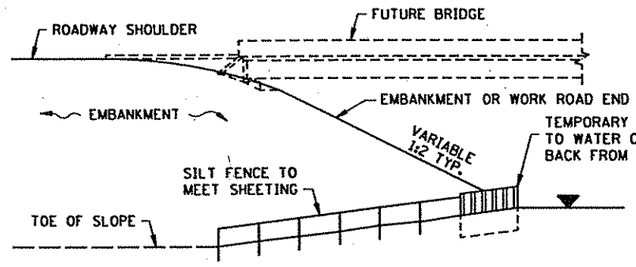
PLAN VIEW SIDE VIEW

SILT FENCE, J-HOOK INSTALLATION



SILT FENCE, PREASSEMBLED

DESIGN GUIDELINES:
TO PROTECT AREAS FROM SHEET FLOW.
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



EMBANKMENT OR WORK ROAD FILL

DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES

SILT FENCE AT BRIDGE EMBANKMENT ADJACENT TO WATER

NOTES:
SEE SPECS. 2573, 3149 & 3886.
① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.

STANDARD SHEET NO. 5-297.408 (1 OF 2)	TITLE: TEMPORARY SEDIMENT CONTROL SILT FENCE
STANDARD APPROVED: SEPTEMBER 27, 2006	
STATE PROJ. NO. 0215-59 (T.H. 10)	SHEET NO. 63A OF 681 SHEETS

PLOTTED/REVISED: $$$$ ..$$$$
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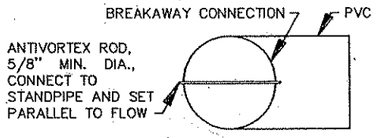
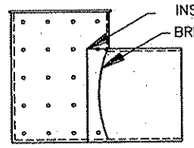
IPLOT NAME: SPNJOGN
FILE NAME: S40L

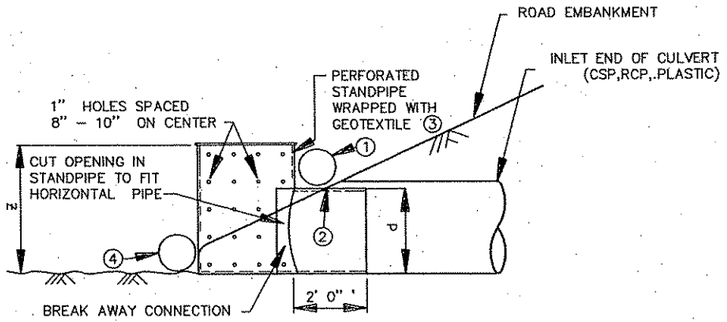
Xref'd Drawings
--DWG--BDR
34bdr



PLAN VIEW



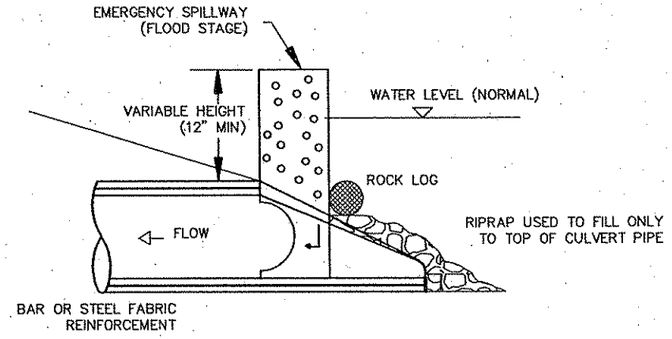
CULVERT STANDPIPE



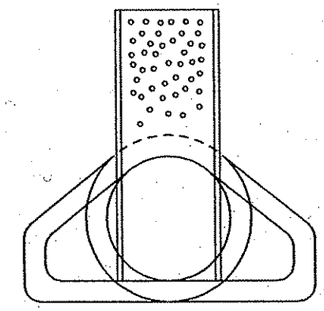
ELEVATION VIEW OF CULVERT INSTALLATION

CULVERT SIZE: 12" – 36"

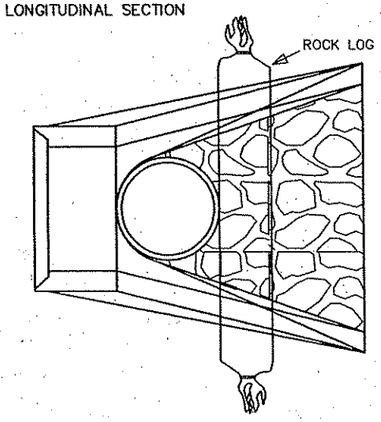
d = O.D. DIAMETER OF STANDPIPE TO FIT INTO I.D. DIAMETER OF PLAN CULVERT
z = LENGTH OF PERFORATED STANDPIPE (MIN d+12")



LONGITUDINAL SECTION



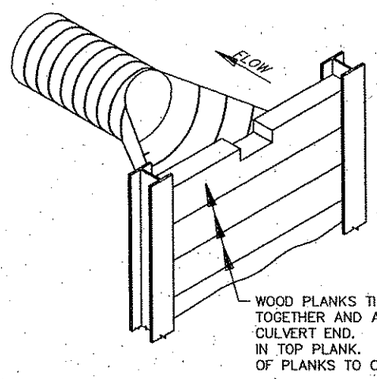
END VIEW



TOP VIEW
NOTE: ROCK LOG MAINLY USED TO HOLD RISER PIPE IN PLACE

CULVERT STANDPIPE PROTECTION (D–RISER)

FOR SEDIMENT CONTROL ON CULVERT INLET



WOOD PLANK WEIR
FOR SEDIMENT CONTROL AT CULVERT INLETS

NOTES:

SEE SPECS. 2573, 3891 & 3893.

MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.

① ROCK LOG OR SANDBAG TO HOLD STANDPIPE AND ACT AS A SEAL BETWEEN RISER PIPE AND CULVERT.

② INSTALL CULVERT APRON AND SLIDE TEMPORARY STANDPIPE INTO CSP OR RCP CULVERT. AFTER VEGETATION IS ESTABLISHED REMOVE TEMPORARY STANDPIPE.

③ ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886 FOR MACHINE SLICED.

④ ROCK LOG OR RIP RAP TO HOLD STANDPIPE AND ACT AS A FILTER BETWEEN RISER PIPE AND CULVERT.

NOT TO SCALE

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042	
DRAWN BY: PMJ	DESIGN BY: SAW
CHKED. BY: SAW	DWG. NAME: S4041_BT
DATE: JANUARY 8, 2007	

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

TEMPORARY EROSION CONTROL

CULVERT PROTECTION

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 63B / 681

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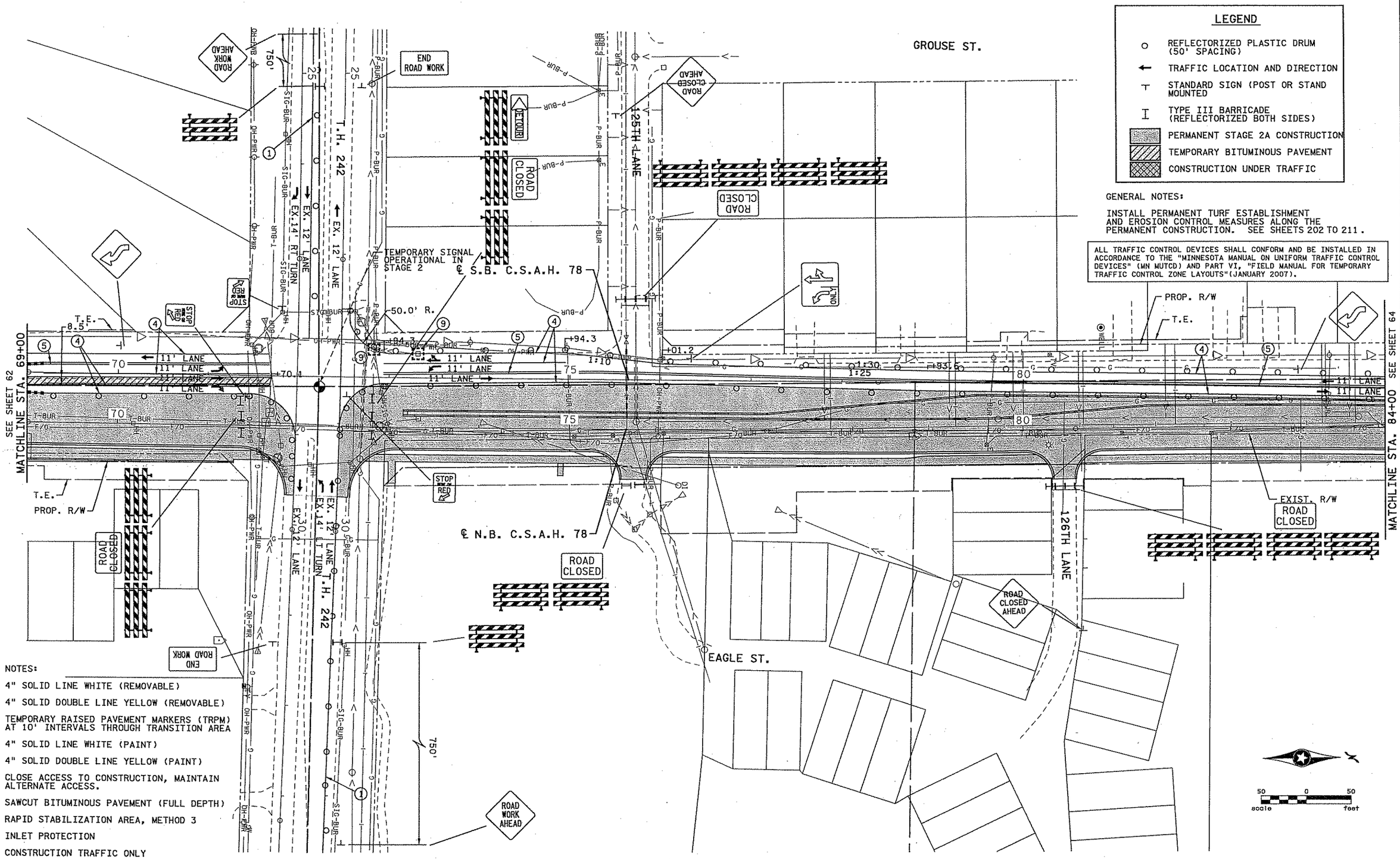

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2B

10:49:52 AM
6/15/2007
Date Plotted

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: CHRIS M. TRBOYEVICH
Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2A

SHEET 63 OF 400

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
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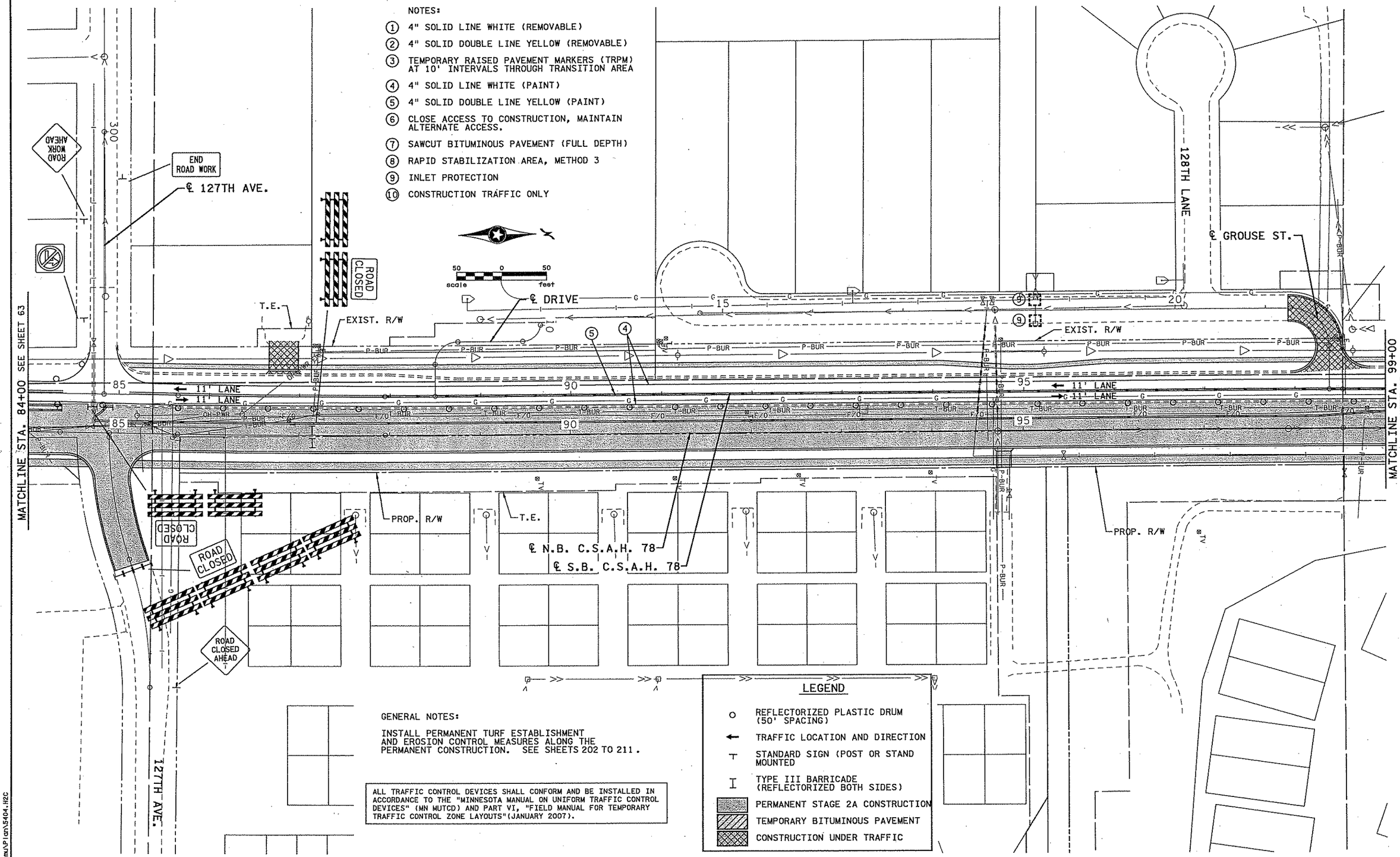
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY



GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2A CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
					...\5404\hl-mu\Plan\5404_H2C

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Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2A

SHEET 64 OF 400

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6/15/2007
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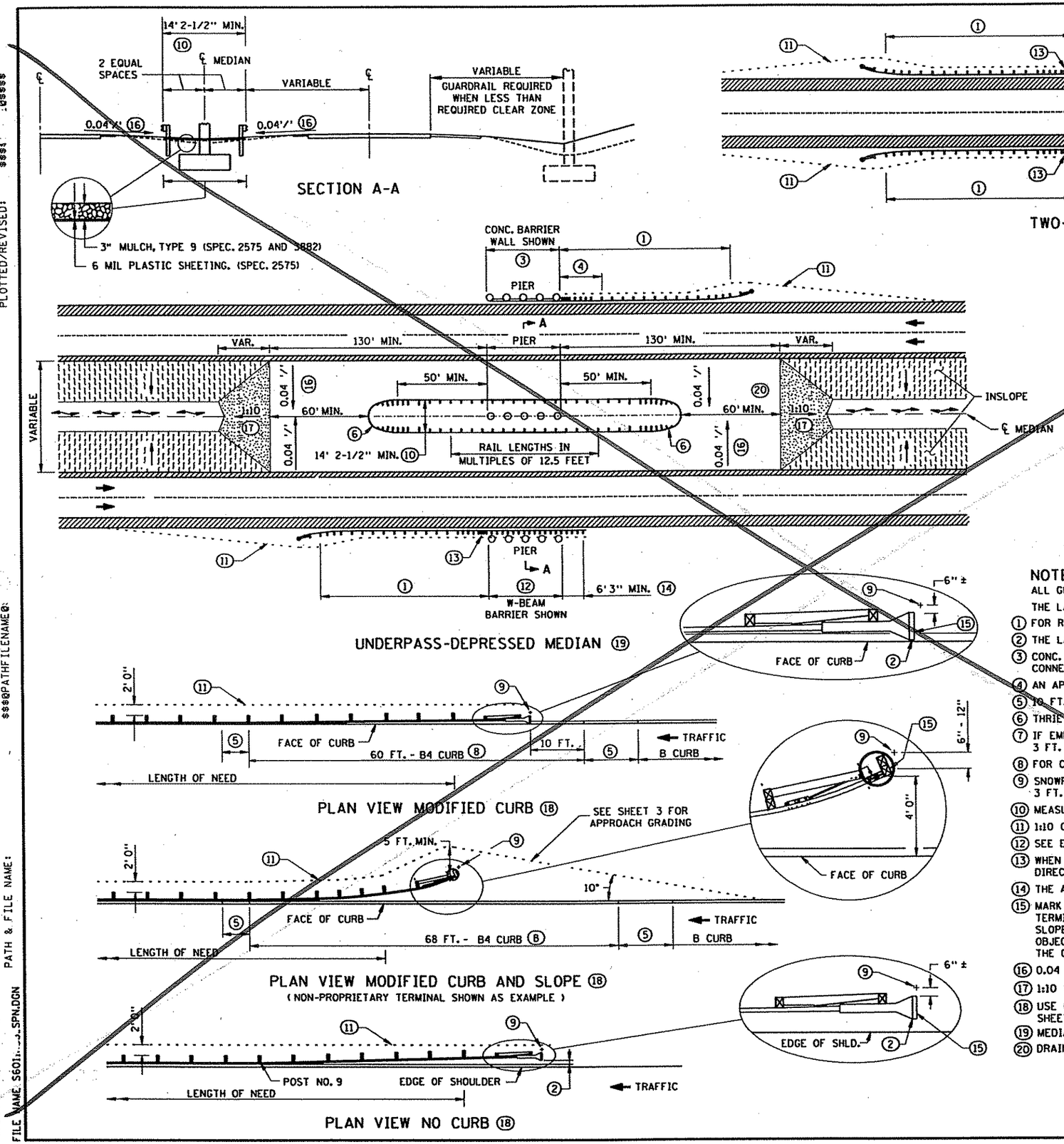

ESTIMATED DESIGN DEFLECTION TABLE FOR DESIGN B W-BEAM GUARDRAIL

6' 3" POST SPACING	3' 0"
6' 3" POST SPACING WITH DOUBLE NESTED RAIL	2' 8"
MODIFIED 3' 1-1/2" POST SPACING	2' 3"
MODIFIED POST SPACING WITH DOUBLE NESTED RAIL	2' 0"

NOTES:

ALL GUARDRAIL POSTS SHALL BE 6 FT. 3 IN. CENTER TO CENTER (DESIGN B), EXCEPT WHERE NOTED.

THE LATEST APPROVED VERSION OF STANDARD PLATES SHOWN OR AS INDICATED IN THE PLANS SHALL APPLY.

(1) FOR REQUIRED LENGTH OF INSTALLATION SEE ROAD DESIGN MANUAL CHAPTER 10.

(2) THE LAST 50 FT. OF TANGENT TERMINALS MAY BE FLARED AT 1:50 TAPER.

(3) CONC. BARRIER WALL BETWEEN PIER COLUMNS MAY BE USED, STD. PLAN 5-297.610. SEE SHEET NO. ___ FOR WALL DETAILS. CONNECT GUARDRAIL TO BARRIER WALL ANCHORAGE PLATE. SEE SHEET NO. ___ FOR DETAILS.

(4) AN APPROVED TRANSITION MUST BE USED.

(5) 10 FT. CURB TRANSITION, USE IF ADJACENT CURB IS GREATER THAN 4 INCHES.

(6) THRIE BEAM BULLNOSE. SEE SHEET NO. ___ FOR DETAILS.

(7) IF EMBEDMENT IS GREATER THAN 3 FT. 0 IN., OR IF EMBEDMENT IS 2 FT. 6 IN. TO 3 FT. 0 IN. AND ADJACENT POSTS ARE EMBEDDED 3 FT. 0 IN. OR MORE, POST SEAT IS NOT REQUIRED.

(8) FOR CURB 6 IN. OR HIGHER, MILL TO 3 IN. HEIGHT.

(9) SNOWPLOW MARKER (X4-5) WITH A 2 LB./FT. DELINEATOR POST 8 FT. LONG (SPEC. 3401) DRIVEN INTO THE GROUND. EXTEND 3 FT. ABOVE TERMINAL. THE MARKER IS INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

(10) MEASUREMENT IS FROM BACK OF RAIL TO BACK OF RAIL.

(11) 1:10 OR FLATTER SLOPE P.I..

(12) SEE ESTIMATED DESIGN DEFLECTION TABLE FOR DESIGN B W-BEAM GUARDRAIL.

(13) WHEN CLOSE POST SPACING OR DOUBLE NESTED RAIL IS USED, THIS POST SPACING SHOULD EXTEND A MINIMUM OF 12 FT. IN THE DIRECTION OF APPROACHING TRAFFIC.

(14) THE ANCHOR ASSEMBLY MUST BE LOCATED DOWNSTREAM OF THE HAZARD.

(15) MARK THE APPROACH END OF PLATE BEAM GUARDRAIL INSTALLATIONS WITH A STRIPED OBJECT MARKER SIZED TO FIT THE END TERMINAL, HAVING ALTERNATING BLACK AND REFLECTIVE YELLOW (WIDE ANGLE PRISMATIC RETROREFLECTIVE SHEETING) STRIPES SLOPED DOWNWARD AT A 45 DEGREE ANGLE TOWARD THE SIDE ON WHICH TRAFFIC PASSES. FOR FLAT END TREATMENTS THE OBJECT MARKER SHALL FIT INSIDE THE RECESSED AREA. FOR ROUNDED END TREATMENTS THE OBJECT MARKER SHALL WRAP AROUND THE CIRCULAR END AND BE MOUNTED SO THE TOP OF THE OBJECT MARKER LINES UP WITH THE TOP OF THE END TREATMENT.

(16) 0.04 FT./FT. CROSS SLOPE TYPICAL. 0.10 FT./FT. CROSS SLOPE MAXIMUM.

(17) 1:10 SLOPE OR FLATTER.

(18) USE ONLY FOR RETROFITS WITH SITE RESTRICTIONS. FOR RETROFITS WITHOUT SITE RESTRICTIONS AND NEW CONSTRUCTION, SEE SHEET 3.

(19) MEDIAN GRADING DETAIL SHOWN APPLIES TO THRIE-BEAM BULLNOSE ONLY.

(20) DRAINAGE DETAILS SHOWN ON GRADING PLAN.

STANDARD SHEET NO. 5-297.601 (1 OF 3)	TITLE: GUARDRAIL INSTALLATIONS AT MEDIANS AND END TREATMENTS
STANDARD APPROVED: AUGUST 17, 2005	

STATE PROJ. NO. 0215-59 (T.H. 10) SHEET NO. 64 OF 681 SHEETS

PLOTTED/REVISED: $$$$$

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IPLOT NAME: _OT$NAME@$$

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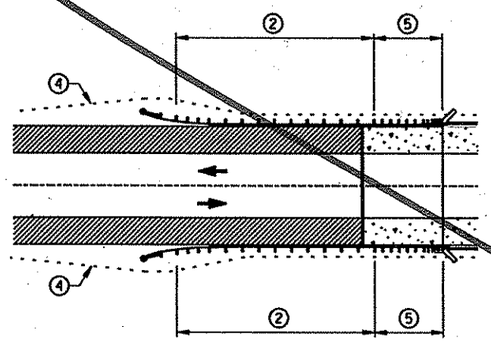
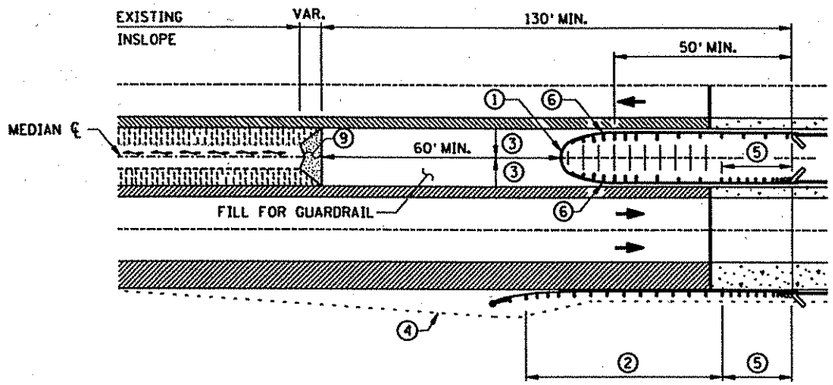
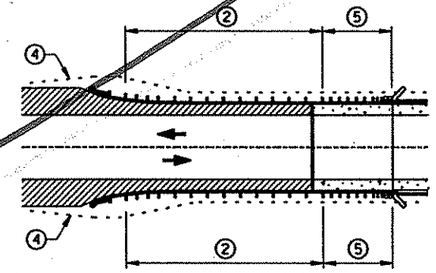


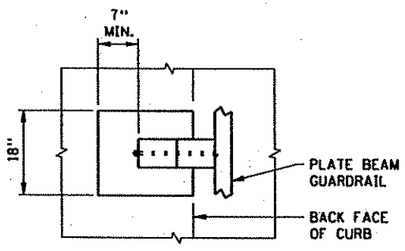
TWO - WAY BRIDGE
WITH FULL SHOULDERS



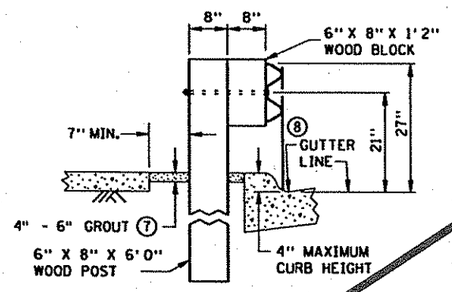
ONE - WAY BRIDGE
WITH FULL RIGHT SHOULDER
(FOR 14' 2-1/2" THRIE BEAM BULLNOSE)



TWO - WAY BRIDGE
WITHOUT FULL SHOULDERS

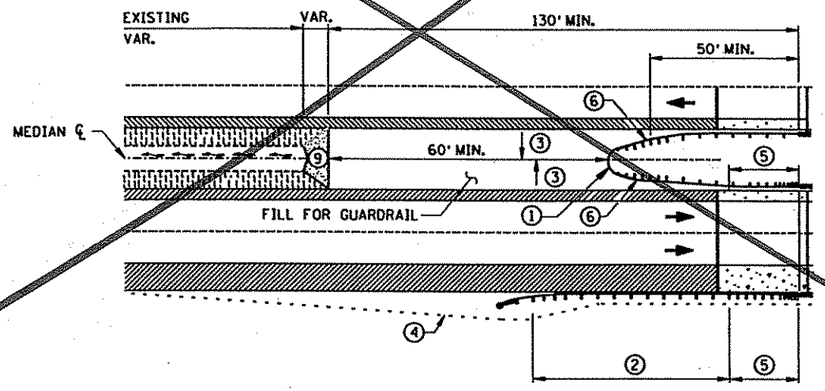


PLAN VIEW



ELEVATION

TYPICAL SECTION AT POST
SET IN CONCRETE



ONE - WAY BRIDGE
WITH FULL RIGHT SHOULDER
(FOR MEDIANS WIDER THAN 14' 2-1/2" THRIE BEAM BULLNOSE)

NOTES:

ALL GUARDRAIL POSTS SHALL BE 6 FT. 3 IN. CENTER TO CENTER (DESIGN B), EXCEPT WHERE NOTED.

THE LATEST APPROVED VERSION OF STANDARD PLATES SHOWN OR AS INDICATED IN THE PLANS SHALL APPLY.

① THRIE BEAM BULLNOSE, SEE SHEET NO. ___ FOR DETAILS.
② FOR THE REQUIRED LENGTH SEE ROAD DESIGN MANUAL CHAPTER 10.
③ 0.04 FT./FT. CROSS SLOPE TYPICAL, 0.10 FT./FT. CROSS SLOPE MAXIMUM.
④ 1:10 OR FLATTER SLOPE P.I.. APPROACH GRADING VARIES WITH TERMINAL TYPE.
⑤ PLATE BEAM GUARDRAIL ATTACHMENTS TO FIXED OBJECTS REQUIRE AN APPROVED TRANSITION SECTION.
⑥ FOR MEDIANS WIDER THAN THE 14 FT. 2-1/2 IN., BEFORE TAPERING THE APPROACH SIDE TAPER THE OPPOSING SIDE AS SHOWN ON THE BULLNOSE DESIGN DETAIL. APPROACH TAPER SHOULD NOT EXCEED 1:25 IF THE BARRIER IS WITHIN THE SHY LINE OR 1:15 IF IT IS OUTSIDE.
⑦ TWO-SACK GROUT MIX (BY VOLUME: 1 PART CEMENT, 1 4 PARTS SAND, 5 PARTS WATER).
⑧ PLACE FRONT FACE OF W-BEAM DIRECTLY ABOVE FRONT FACE OF CURB.
⑨ 1:10 SLOPE OR FLATTER.

STANDARD SHEET NO. 5-297.601 (2 OF 3)	TITLE: GUARDRAIL INSTALLATIONS AT MEDIANS AND END TREATMENTS
STANDARD APPROVED: AUGUST 17, 2005	

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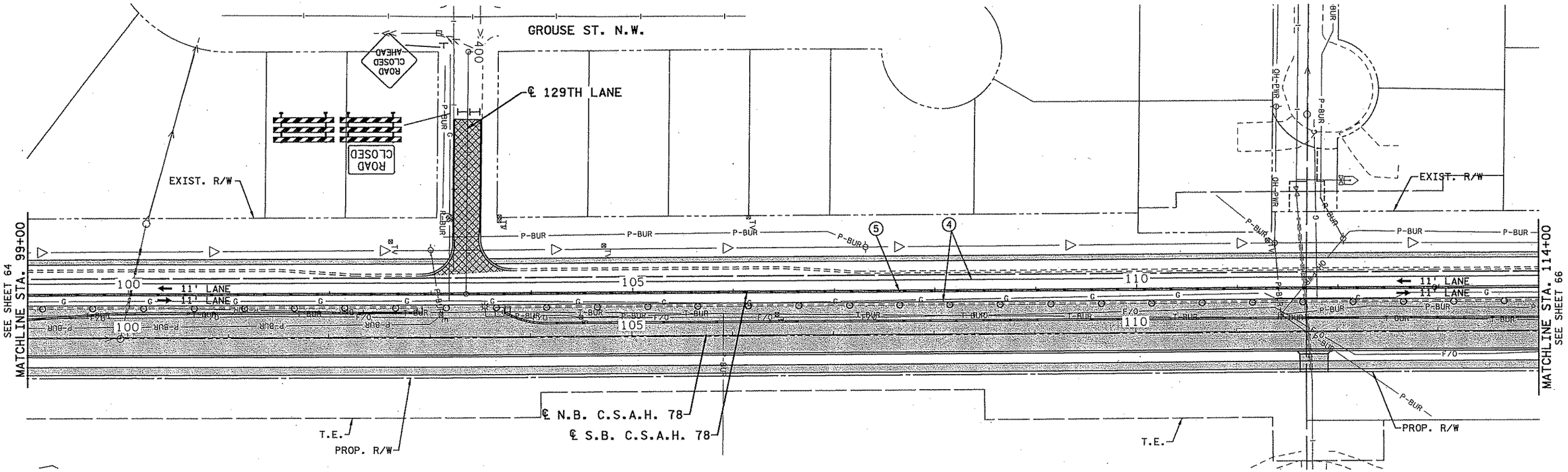

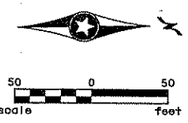

NOTES:

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10. CONSTRUCTION TRAFFIC ONLY

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
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GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

STAGE 2A

SHEET 65 OF 400

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

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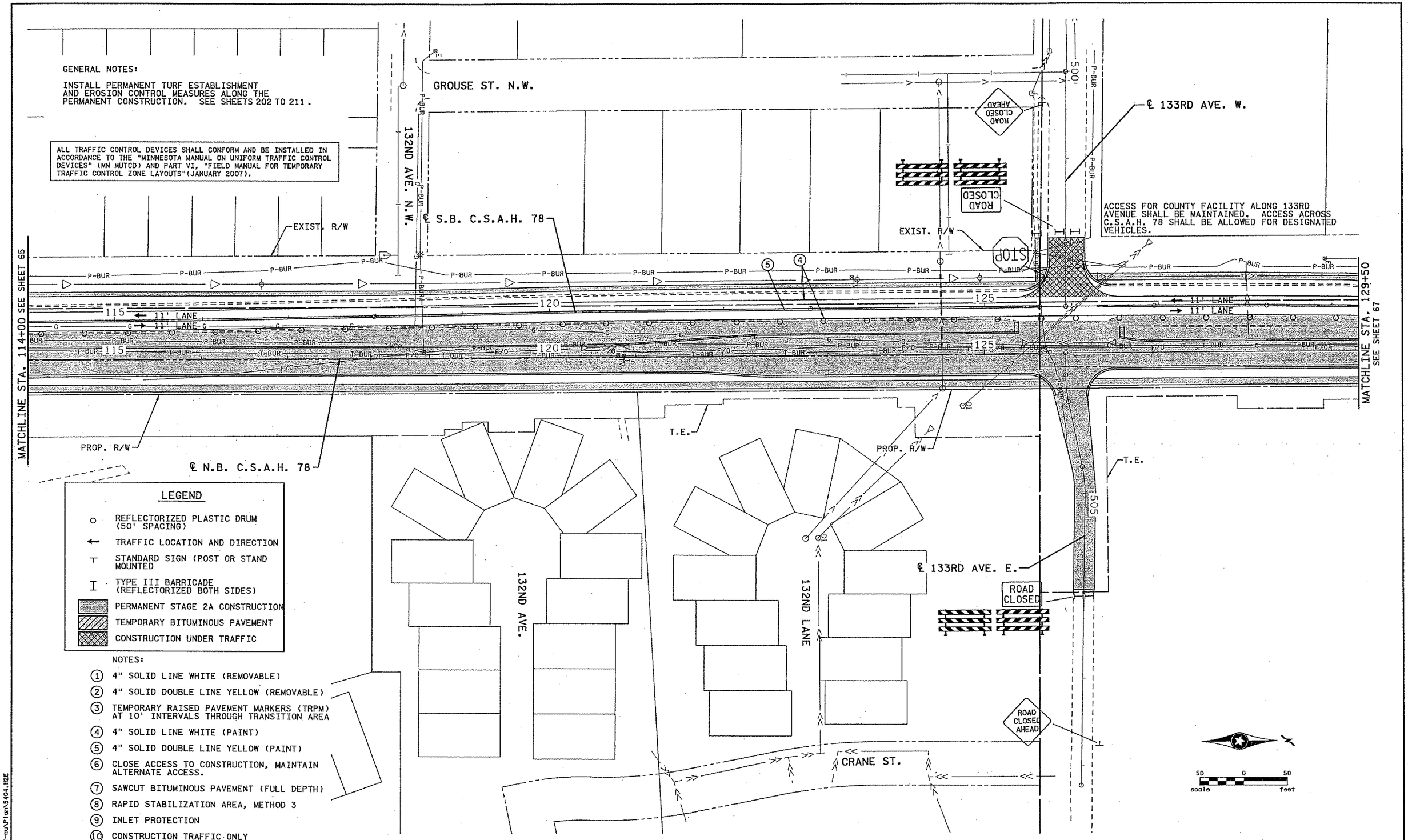

LEGEND

- ○ REFLECTORIZED PLASTIC DRUM (50' SPACING)
- ← TRAFFIC LOCATION AND DIRECTION
- ⊤ STANDARD SIGN (POST OR STAND MOUNTED
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1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.H2E

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Print Name: CHRIS M. TRBOYEVICH

Chris Trboyevich

Date 6/15/07 License # 41635

STATE AID PROJECT NO. 02-678-16

STATE PROJECT NO. X

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY D.FITCHORN

DESIGNED BY C.TRBOYEVICH

CHECKED BY M. TURNER

COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLAN

C.S.A.H. 78

STAGE 2A

SHEET 66 OF 400

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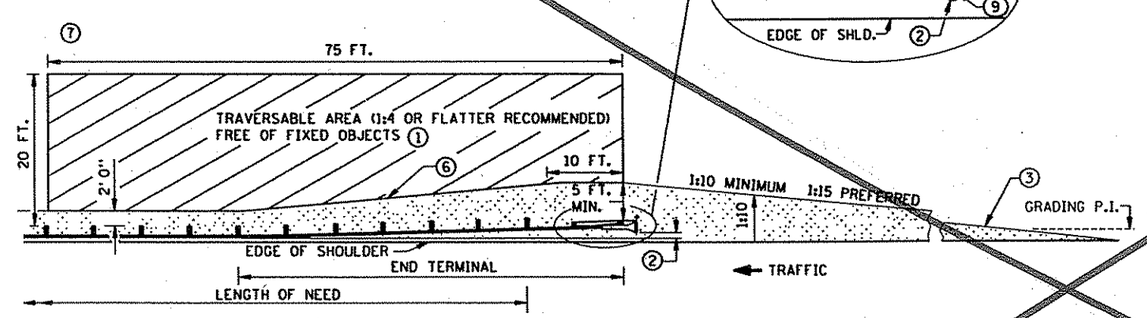
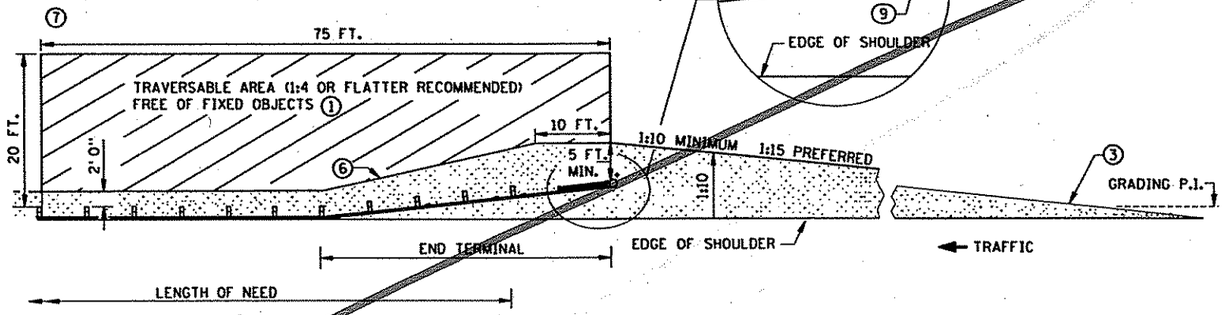


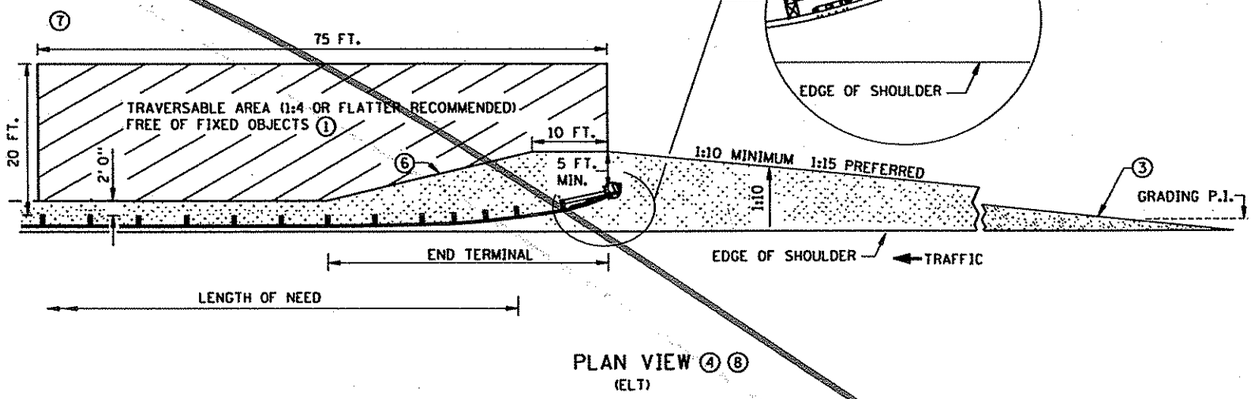
PLAN VIEW

(PROPRIETARY TANGENT TERMINAL SHOWN AS EXAMPLE)



PLAN VIEW ⑧

(PROPRIETARY FLARED TERMINAL SHOWN AS EXAMPLE)



PLAN VIEW ④ ⑧

(ELT)

NOTES:

ALL CROSS SLOPES ARE IN FOOT/FOOT UNLESS OTHERWISE NOTED.

ALL GUARDRAIL POSTS SHALL BE 6 FT. 3 IN. CENTER TO CENTER (DESIGN B), EXCEPT WHERE NOTED.

CHANGES (TO SUBJECTS COVERED BY THIS SHEET) INDICATED IN THE PLANS OR ON PLATES WITH MORE RECENT APPROVAL DATES SHALL APPLY.

GRADING AND DRAINAGE HARDWARE ARE NOT INCIDENTAL TO GUARDRAIL INSTALLATION.

① SLOPES BETWEEN 1:3 AND 1:4 PERMITTED WHEN 1:4 OR FLATTER IS NOT POSSIBLE. FOR SLOPES STEEPER THAN 1:3 THE AREA IMMEDIATELY BEHIND AND BEYOND THE END TERMINAL SHOULD, AT LEAST, BE SIMILAR IN CROSS SECTION TO THE UNSHIELDED ROADSIDE AREA UPSTREAM OF THE END TERMINAL.

② THE LAST 50 FT. OF TANGENT TERMINALS CAN BE FLARED AT 1:50 TAPER.

③ WHEN GRADING PLATFORMS ARE BUILT, THEY MUST BE SMOOTHLY TRANSITIONED TO EXISTING SIDE SLOPE SO THE ENTIRE ROADSIDE APPROACH TO THE BARRIER REMAINS TRAVERSABLE, AS WELL AS THE AREA IMMEDIATELY BEHIND IT.

④ SEE STANDARD PLATE 8329.

⑤ SNOWPLOW MARKER (X4-5) WITH A 2 LB./FT. DELINEATOR POST 8 FT. LONG (SPEC. 3401) DRIVEN INTO THE GROUND. EXTEND 3 FT. ABOVE TERMINAL. THE MARKER IS INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE. MARK BOTH THE BEGINNING AND END OF PLATE BEAM GUARDRAIL INSTALLATION.

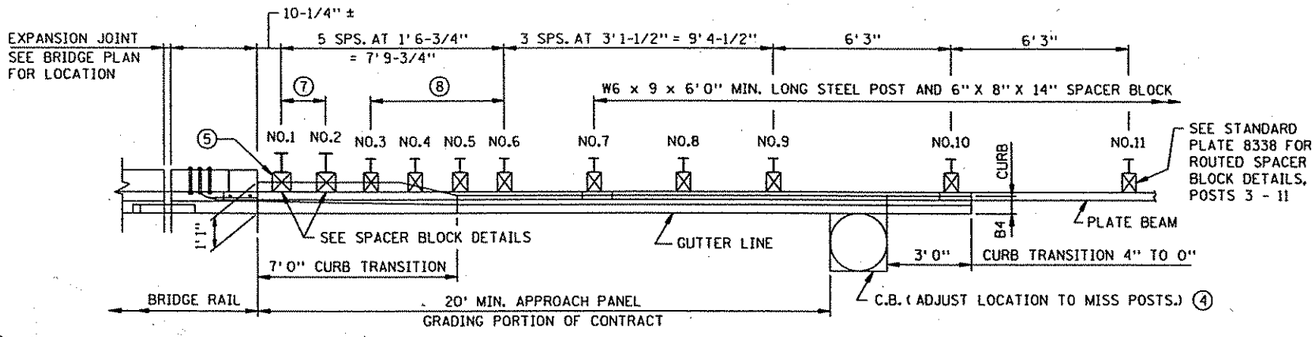
⑥ 1:10 OR FLATTER SLOPE P.I..

⑦ GRADUALLY BLEND SLOPE FROM TRAVERSABLE AREA TO STEEP EXISTING SLOPE (WHEN SLOPE IS STEEPER THAN 1:6).

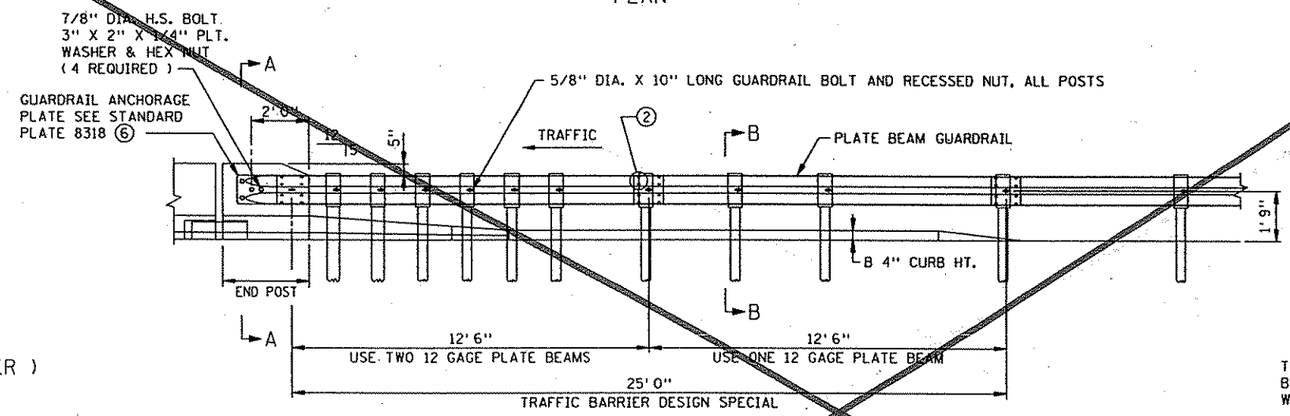
⑧ IF THE TERRAIN BEYOND THE TERMINAL END AND IMMEDIATELY BEHIND THE BARRIER IS NOT SAFELY TRAVERSABLE, A TANGENT (ENERGY- ABSORBING) TERMINAL SHALL BE USED.

⑨ MARK THE APPROACH END OF PLATE BEAM GUARDRAIL INSTALLATIONS WITH A STRIPED OBJECT MARKER SIZED TO FIT THE END TERMINAL, HAVING ALTERNATING BLACK AND REFLECTIVE YELLOW (WIDE ANGLE PRISMATIC RETROREFLECTIVE SHEETING). STRIPES SHALL SLOPE DOWNWARD AT A 45 DEGREE ANGLE TOWARD THE SIDE ON WHICH TRAFFIC PASSES. FOR FLAT END TREATMENTS THE OBJECT MARKER SHALL FIT INSIDE THE RECESSED AREA. FOR ROUNDED END TREATMENTS THE OBJECT MARKER SHALL WRAP AROUND THE CIRCULAR END AND BE MOUNTED SO THE TOP OF THE OBJECT MARKER LINES UP WITH THE TOP OF THE END TREATMENT.

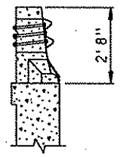
STANDARD SHEET NO. 5-297.601 (3 OF 3)	TITLE: GUARDRAIL INSTALLATIONS AT MEDIANS & END TREATMENTS
STANDARD APPROVED: AUGUST 17, 2005	(FOR NEW CONSTRUCTION AND RETROFITS WITHOUT SITE RESTRICTIONS)



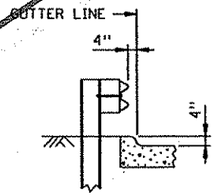
PLAN



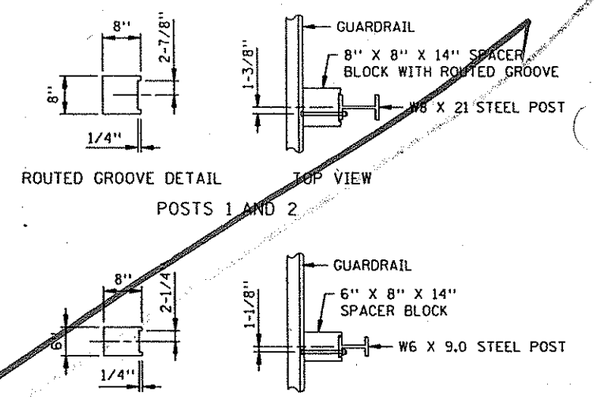
ELEVATION

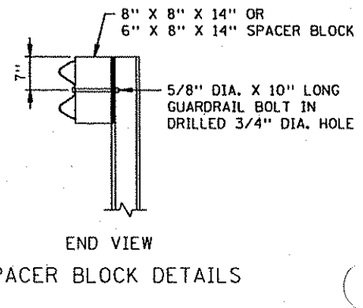


SECTION A - A
F SHAPE RAIL (F BARRIER)
(PARALLEL WINGWALL SHOWN)

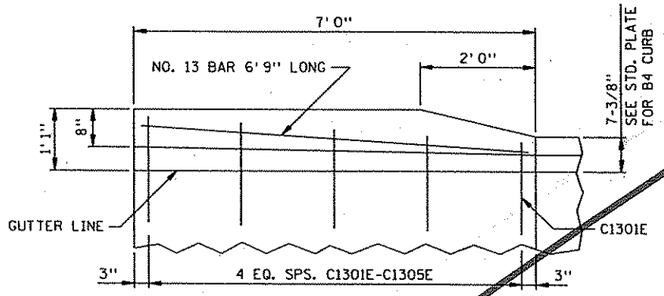


SECTION B-B
THE TRANSITION SECTION HAS BEEN TESTED AND APPROVED WITH THE CURB PLACED AS SHOWN

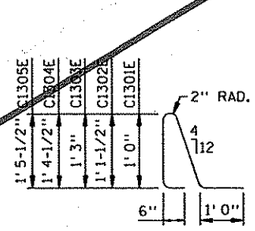




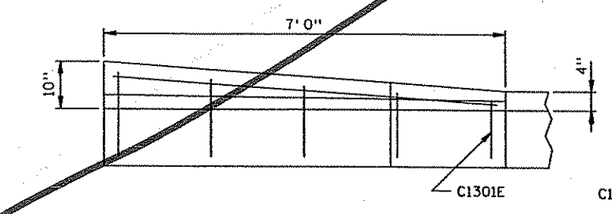
SPACER BLOCK DETAILS



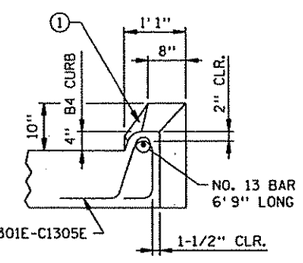
PLAN VIEW



C1301E - C1305E ③

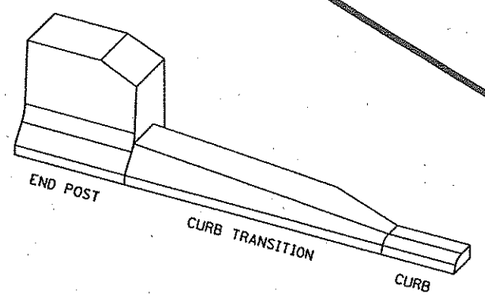


INSIDE ELEVATION



END VIEW

CURB TRANSITION DETAILS



ISOMETRIC VIEW

NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

① END OF TRANSITION TO MATCH BRIDGE RAIL SURFACE.
② 5/8" DIA. X 1-1/4" LONG GUARDRAIL BOLTS AND NUTS TYPICAL AT SPLICES.
③ REINFORCEMENT TO BE EPOXY COATED AS PER SPEC. 3301.
④ SEE ROAD PLANS TO VERIFY ACTUAL DIMENSION AND LOCATION.
⑤ ADDITIONAL BLOCKING MAY BE REQUIRED TO CLEAR BRIDGE STRUCTURE, VERIFY IN FIELD.
⑥ SANDWICH ANCHOR PLATE BETWEEN RAIL BEAMS.
⑦ POSTS 1 AND 2 TO BE W8 x 21 X 8'0" MINIMUM LONG STEEL POST AND 8" X 8" X 14" SPACER BLOCK.
⑧ POSTS 3, 4, 5, AND 6 TO BE W6 x 9 X 6'0" MIN. LONG STEEL POST AND 6" X 8" X 14" SPACER BLOCK.

TRAFFIC BARRIER DESIGN SPEC.

STANDARD SHEET NO. 5-297.603	TITLE: NEW W-BEAM TRANSITION TO CONCRETE F-SHAPE SAFETY RAIL WITH APPROACH CURB (STEEL POST)
STANDARD APPROVED: DECEMBER 20, 2001	
STATE PROJ. NO. 0215-59 (T.H. 10)	SHEET NO. 67 OF 681 SHEETS

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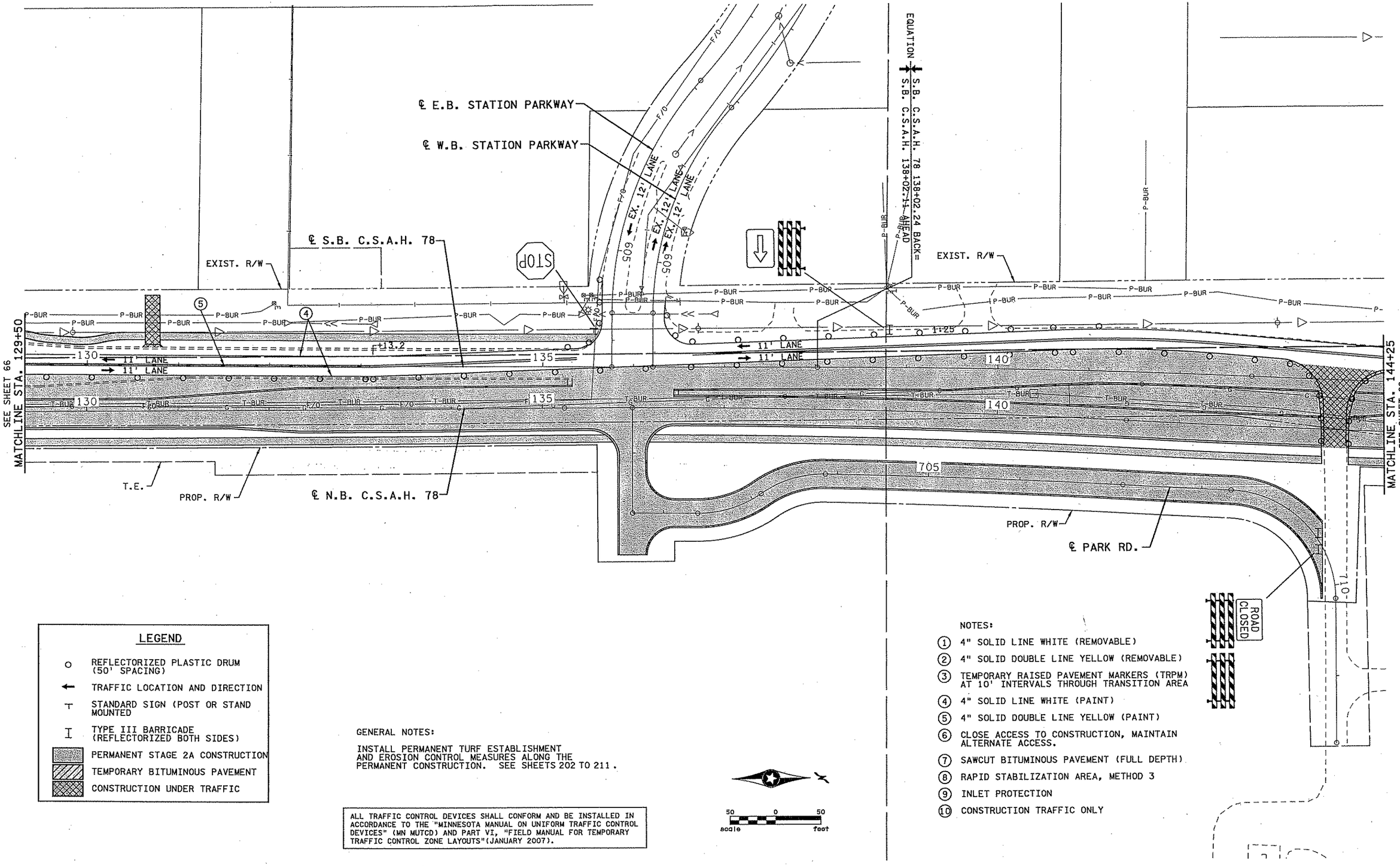
PATH & FILE NAME:
IPLOT NAME: \IPLOT$NAME@$$
FILENAME S&G SPN



LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2A CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

50 0 50
scale feet

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
...\5404\h1-mu\Plan\5404.H2F					

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: CHRIS M. TRBOYEVICH
Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2A

SHEET 67 OF 400

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NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
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6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

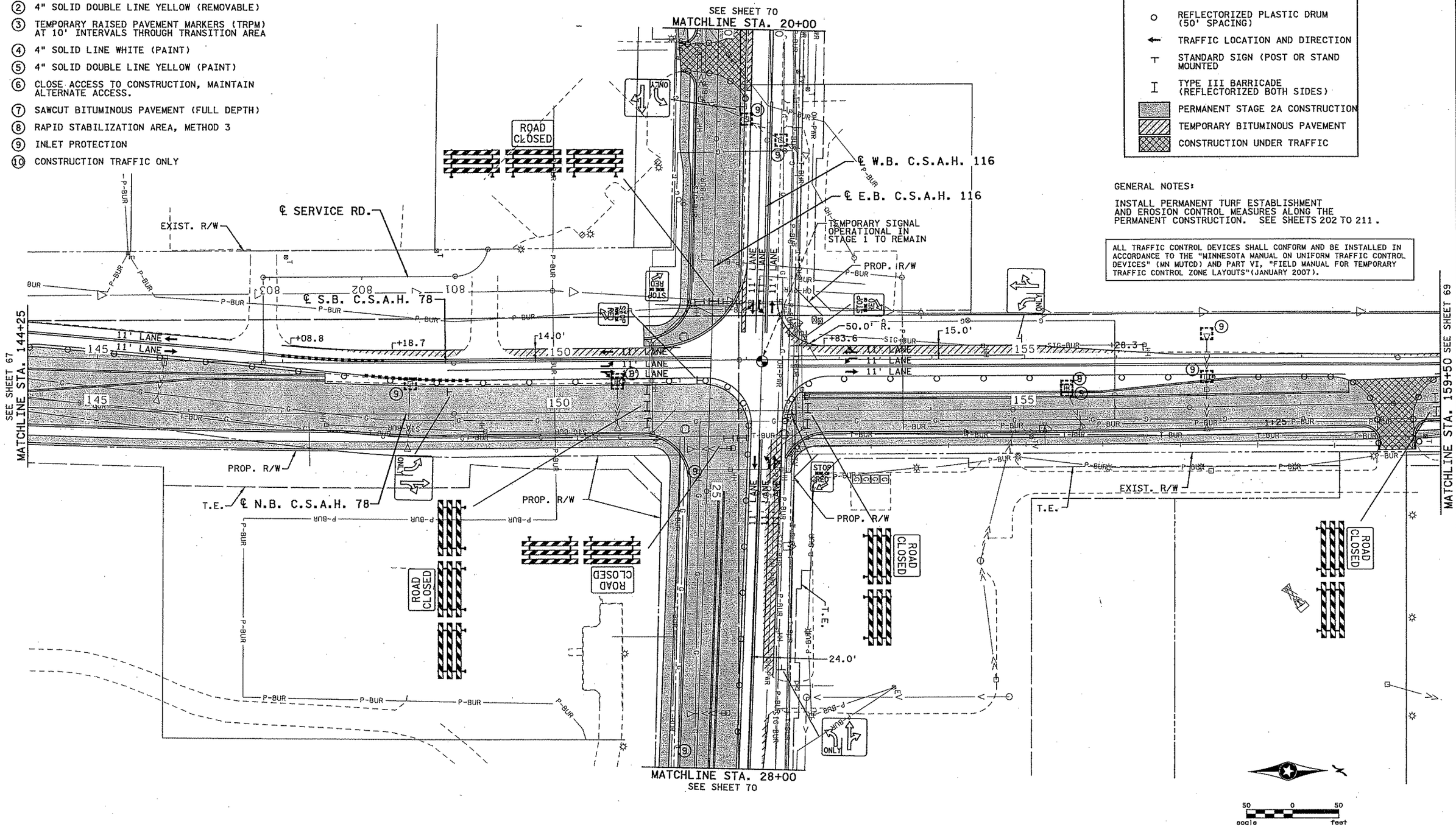
LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2A CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).



NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2A

SHEET 68 OF 400

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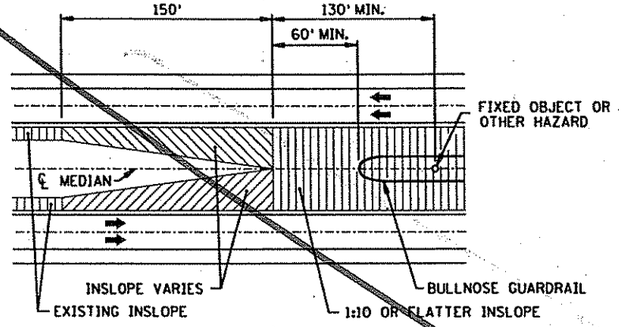
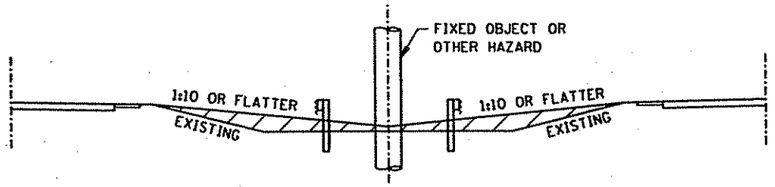
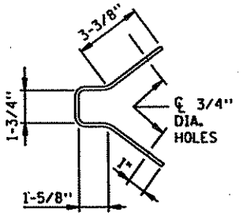


GRADING AT BULLNOSE
(DEPRESSED MEDIAN)

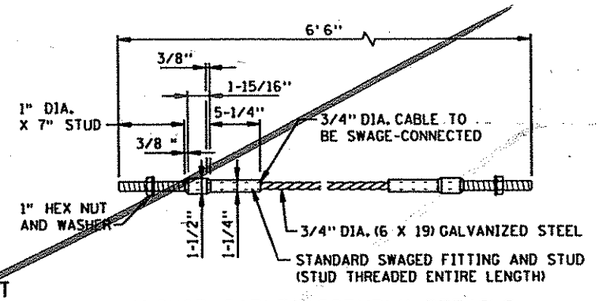


MEDIAN GRADING SECTION
(AT FIXED OBJECT)

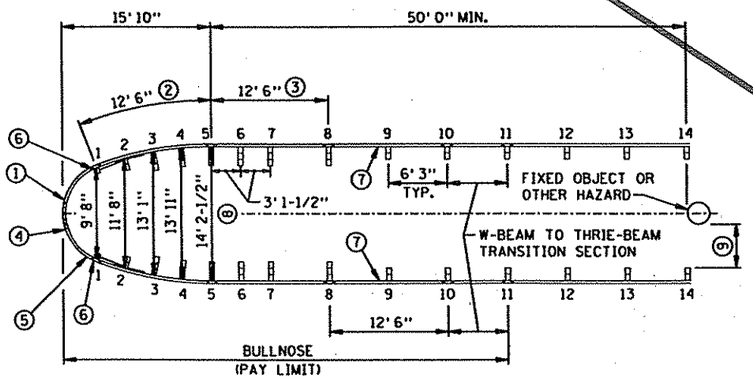


END VIEW

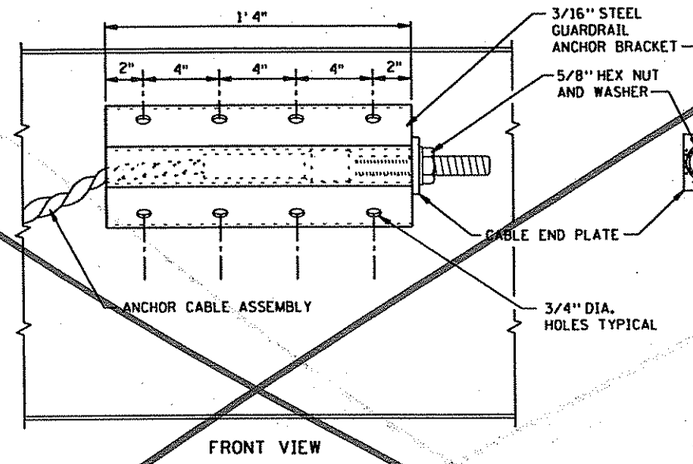
GUARDRAIL ANCHOR BRACKET



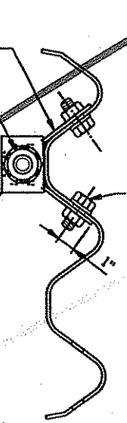
ANCHOR CABLE ASSEMBLY DETAILS



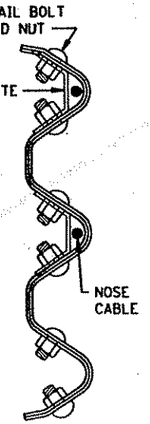
PLAN VIEW
DETAILS OF BULLNOSE



FRONT VIEW

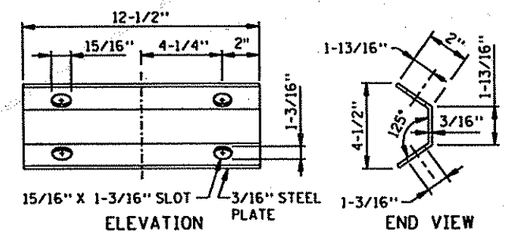


ASSEMBLY
END VIEW



ASSEMBLY
END VIEW

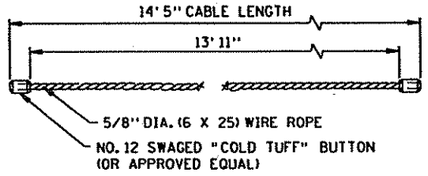
NOSE CABLE
ANCHOR PLATE
DETAILS



ELEVATION

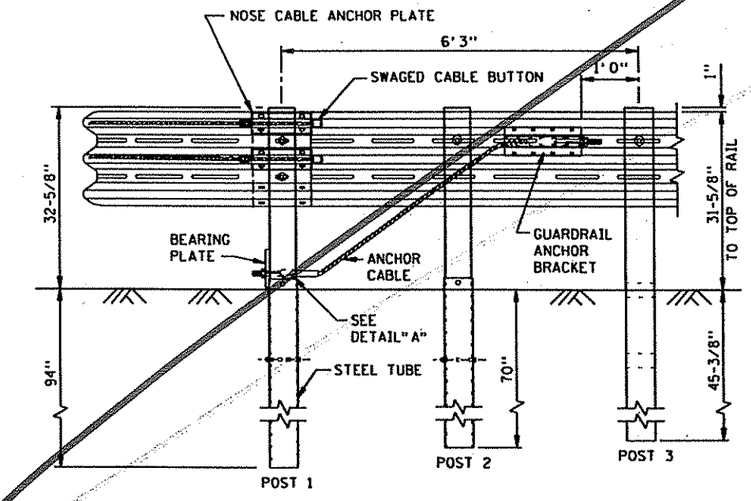
END VIEW

NOSE CABLE ANCHOR PLATE

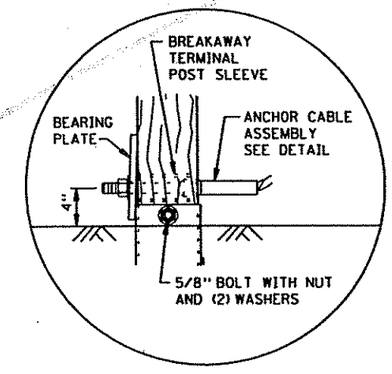


NOSE CABLE

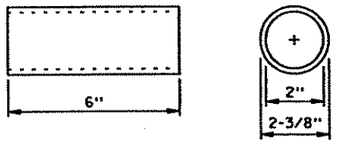
GUARDRAIL ANCHOR BRACKET DETAILS



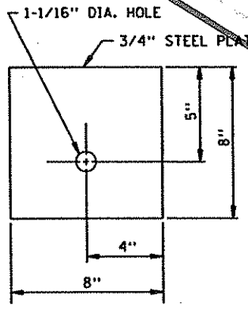
ELEVATION
BULL NOSE ASSEMBLY



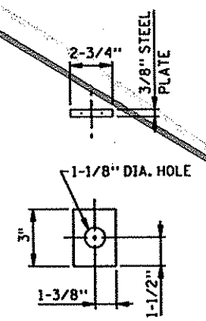
DETAIL "A"



BREAKAWAY TERMINAL POST SLEEVE



BEARING PLATE



CABLE END PLATE

NOTES:

OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.

ALTERNATE HARDWARE DESIGNS WILL BE CONSIDERED FOR APPROVAL PROVIDED THEIR CONNECTION DETAILS, FOR THE PURPOSE OF MAINTENANCE SUBSTITUTIONS, ARE COMPATIBLE WITH THE DETAILS OF THIS STANDARD AND THEIR OPERATING CHARACTERISTICS ARE SIMILAR TO THOSE OF THE HARDWARE SHOWN IN THIS STANDARD.

BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

SEE "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE" FOR ADDITIONAL HARDWARE INFORMATION. THE MN/DOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SHALL GOVERN.

① SLOTTED RAIL NO. 1, 12' 6", SHOP BEND TO R=5' 3"
② SLOTTED RAIL NO. 2, 12' 6", SHOP BEND TO R=34' 2"
③ SLOTTED RAIL NO.3, 12' 6", TANGENT
④ U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
⑤ NOSE CABLE W/SWAGED END BUTTONS
⑥ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
⑦ THRIE-BEAM GUARDRAIL, 12' 6".
⑧ MEASUREMENTS ARE FROM BACK OF RAIL TO BACK OF RAIL. FOR GUARDRAIL LAPPING DETAIL, SEE SHEET 2 OF 2.
⑨ MINIMUM DESIGN DEFLECTION FOR BARRIER USED.

STANDARD SHEET NO. 5-297.611 (1 OF 3)	THRIE BEAM BULLNOSE GUARDRAIL FOR MEDIANS (14' 2-1/2" WIDTH)
STANDARD APPROVED: AUGUST 20, 2001	
REVISION DATE 7-11-02	STATE PROJ. NO. 0215-59 (T.H. 10) SHEET NO. 68 OF 681 SHEETS

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PATH & FILE NAME:
PLOTSNAME@$$
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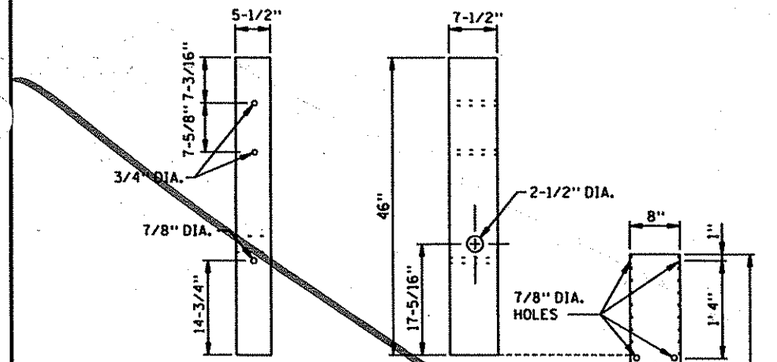
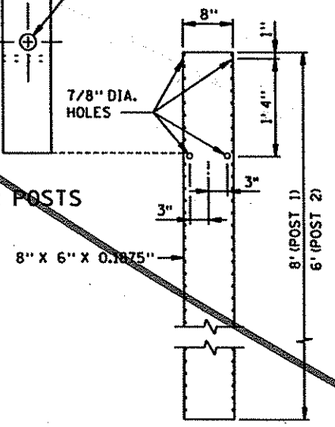
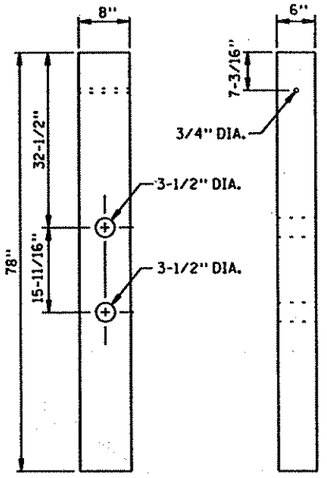
PLOT NAME:
FILE NAME: 561



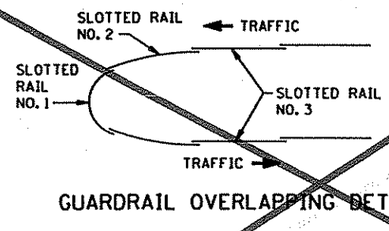
THRIE-BEAM BCT ANCHOR POSTS



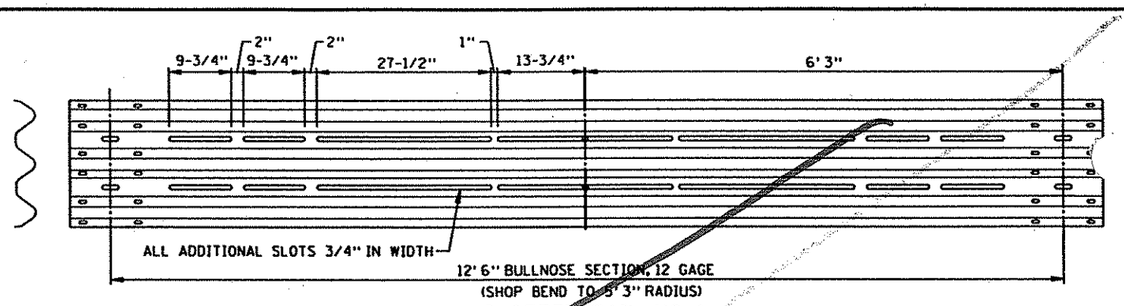
STEEL TUBE



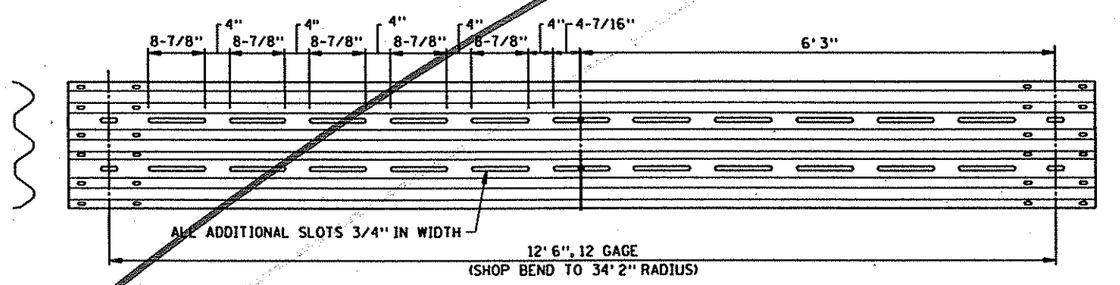
THRIE-BEAM CRT POSTS



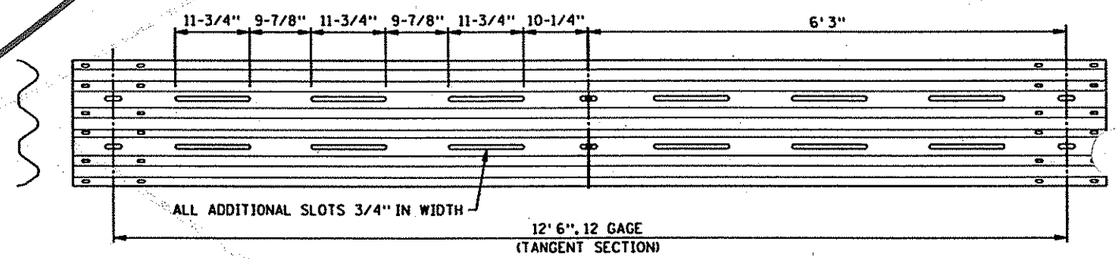
GUARDRAIL OVERLAPPING DETAIL



SLOTTED RAIL NO. 1



SLOTTED RAIL NO. 2



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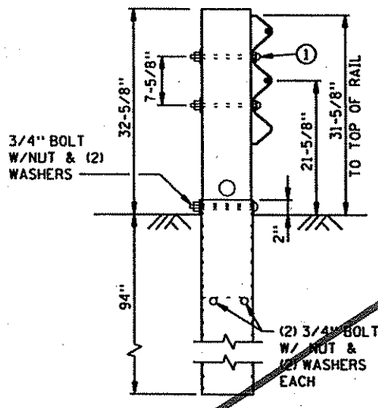
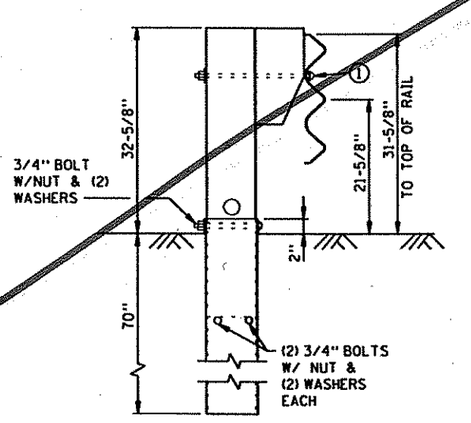
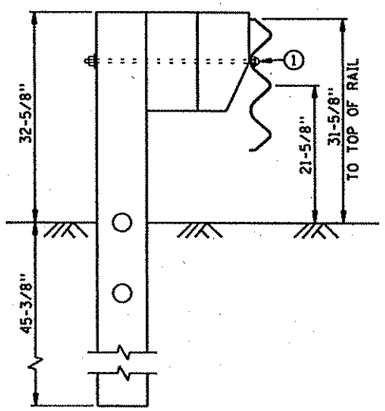


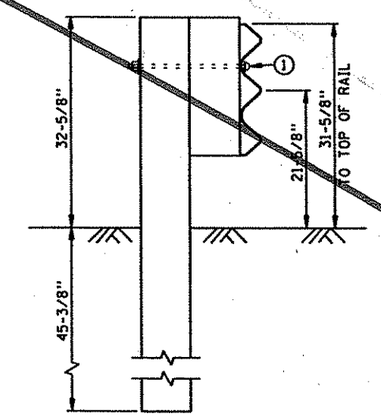
THRIE-BEAM BCT POST
(WITH 96" STEEL TUBE)
POST NO. 1



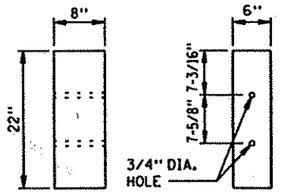
THRIE-BEAM BCT POST
(WITH 72" STEEL TUBE
AND 14" TAPERED BLOCK)
POST NO. 2



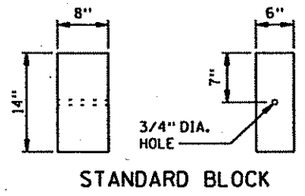
THRIE-BEAM CRT POST
(78" LONG WITH 14" BLOCK
AND 14" TAPERED BLOCK)
POST NO. 3, 4, 5, 6, 7, & 8



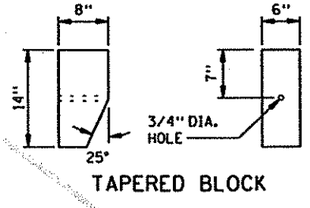
THRIE-BEAM POST
(6" X 8" X 78" LONG POST
WITH 6" X 8" X 22" BLOCK)
POST NO. 9 & 10



STANDARD
22" LONG BLOCK



STANDARD BLOCK



TAPERED BLOCK

NOTES:

① 5/8" DIA. BUTTON HEAD BOLT X LENGTH AS REQUIRED. SECURED WITH WASHER AND HEX NUT.

STANDARD SHEET NO. 5-297.611 (2 OF 3)	TITLE: THRIE BEAM BULLNOSE GUARDRAIL FOR MEDIANS (14' 2-1/2" WIDTH)
STANDARD APPROVED: AUGUST 20, 2001	
REVISION DATE 7-11-2002	STATE PROJ. NO. 0215-59 (T.H. 10) SHEET NO. 69 OF 681 SHEETS

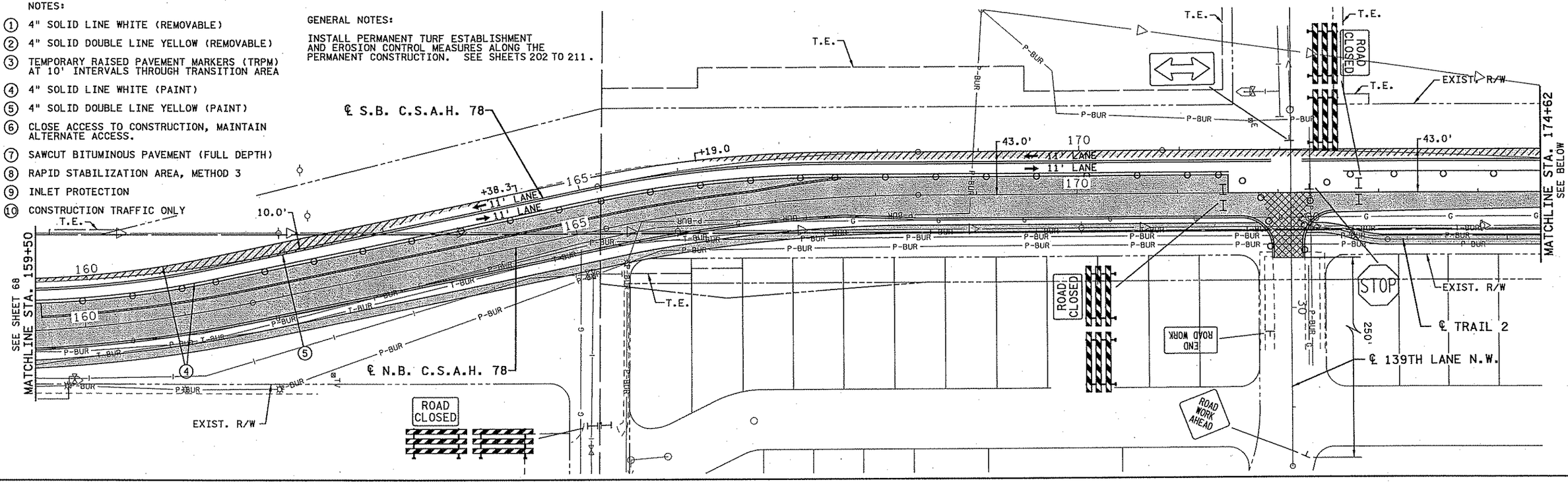
PLOTTED/REVISED: $$$$Date@$$$$
IPLOT NAME: $$@IPLOT$NAME@$$ PATH & FILE NAME: $$@PATHFILE@$$
FILE NAME S61_____.SPN

NOTES:

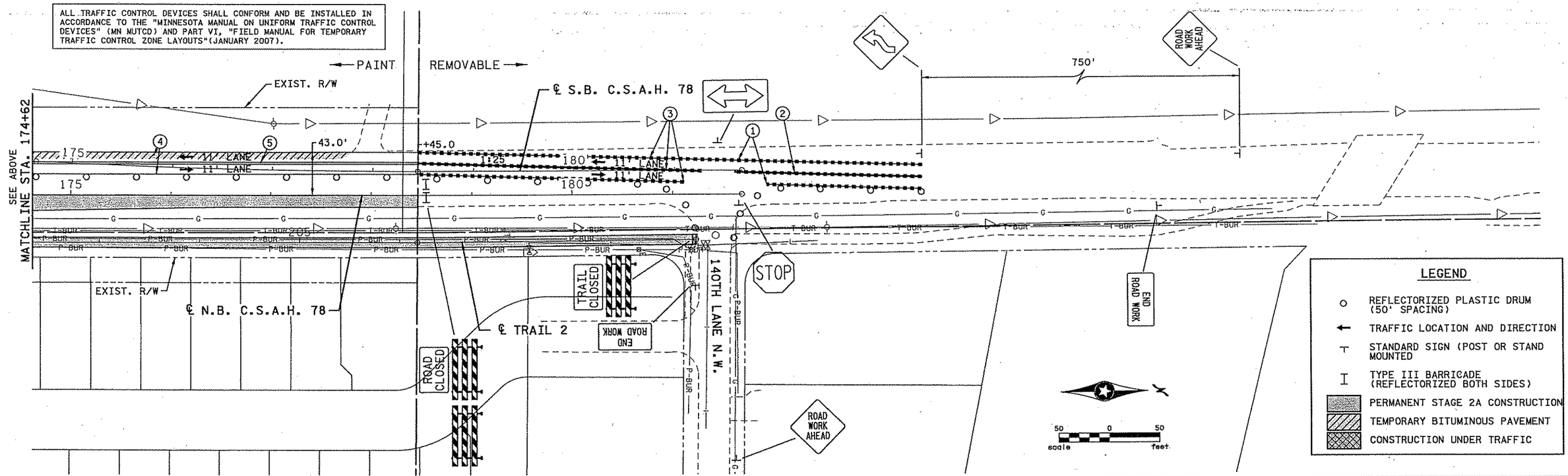
1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.



ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).



LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2A CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
...\5404\hl-mu\Plan\5404.H2H					

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

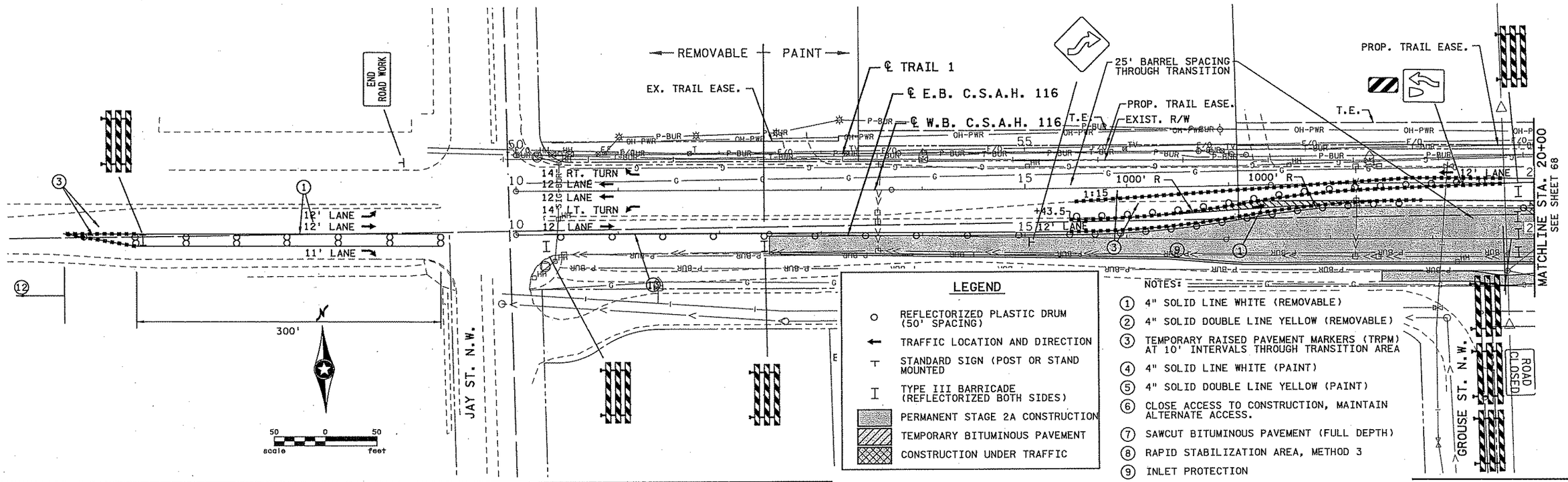
STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

STAGE 2A

SHEET 69 OF 400

11:04:40 AM
6/15/2007
H:\Projects\5404\hl-mu\Plan\5404.H2H

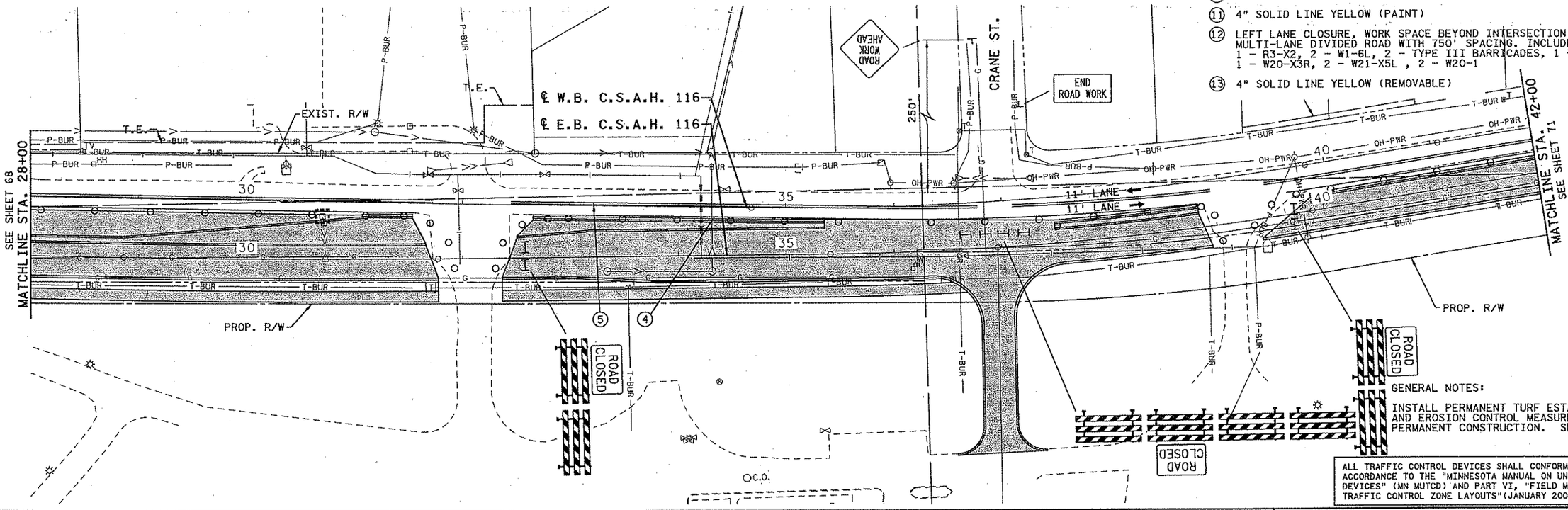


LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2A CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY
11. 4" SOLID LINE YELLOW (PAINT)
12. LEFT LANE CLOSURE, WORK SPACE BEYOND INTERSECTION MULTI-LANE DIVIDED ROAD WITH 750' SPACING. INCLUDES: 1 - R3-X2, 2 - W1-6L, 2 - TYPE III BARRICADES, 1 - W4-2L, 1 - W20-X3R, 2 - W21-X5L , 2 - W20-1
13. 4" SOLID LINE YELLOW (REMOVABLE)



GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
...\5404\hl-mu\Plan\5404.H2I					

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
C.S.A.H. 116 STAGE 2A

SHEET 70 OF 400

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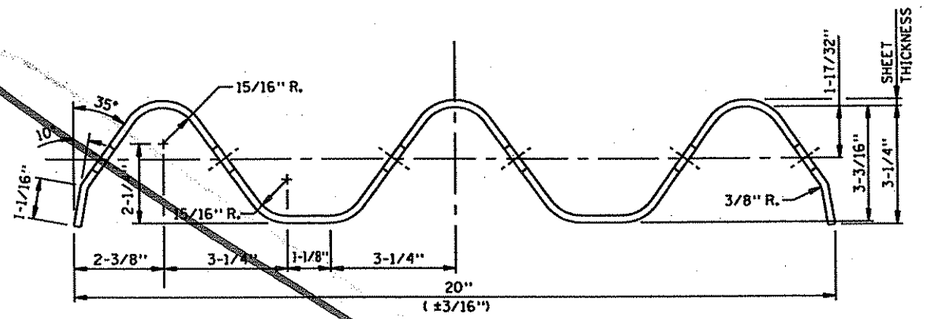
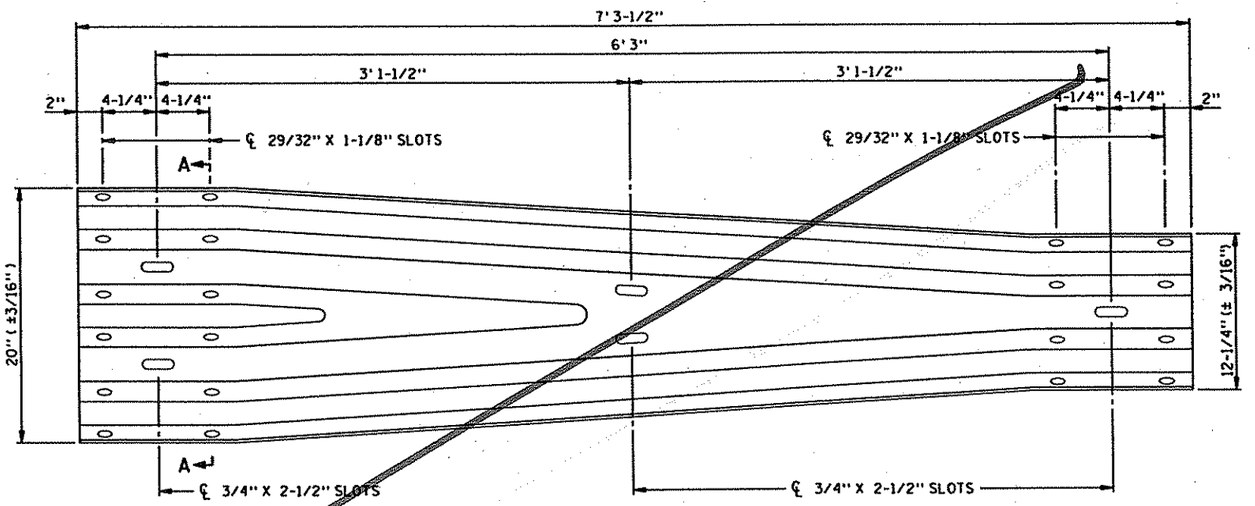
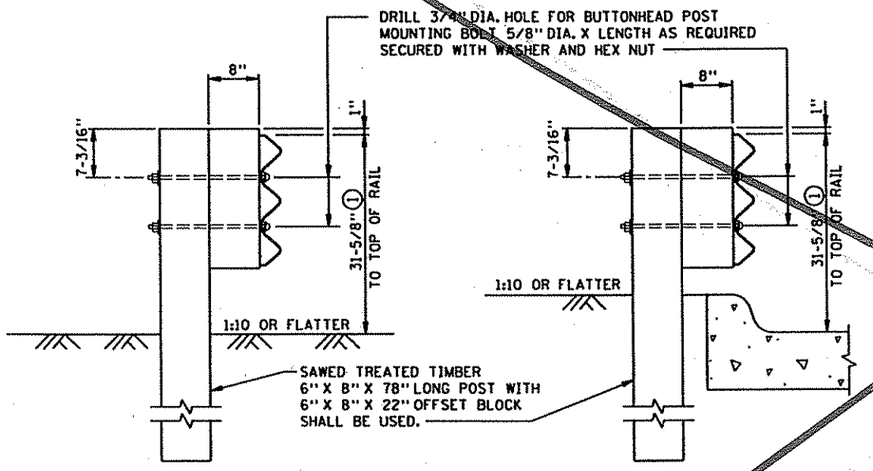


SECTION A-A



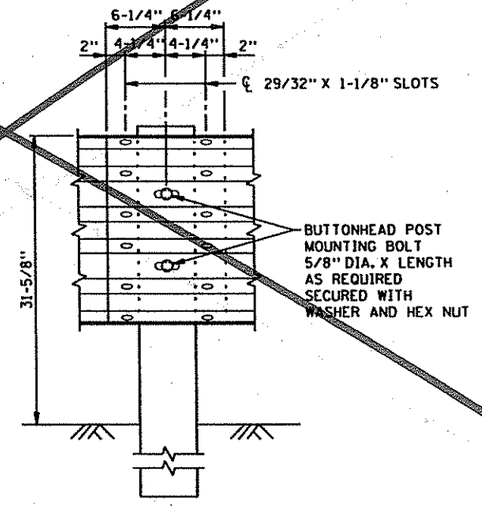
DETAILS OF W-BEAM TO THRIE BEAM TRANSITION SECTION



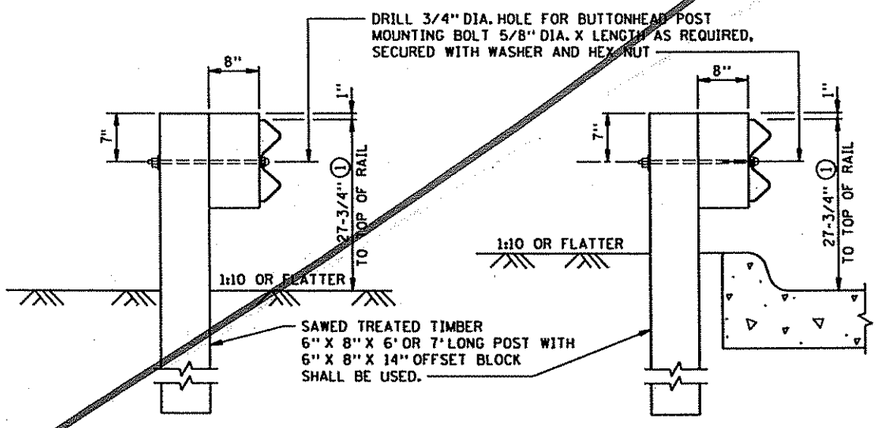
SIDE VIEW WITHOUT CURB

SIDE VIEW WITH CURB

THRIE-BEAM AND POST ASSEMBLY



RAIL ELEMENT SPLICING AND POST MOUNTING DETAIL



SIDE VIEW WITHOUT CURB

SIDE VIEW WITH CURB

W-BEAM AND POST ASSEMBLY

NOTES:

NOT NCHRP-350 APPROVED.

IN LOCATIONS WITH CURB THE FACE OF THE GUARDRAIL SHALL BE LOCATED AT THE FACE OF THE CURB. THE HEIGHT OF THE GUARDRAIL SHALL BE MEASURED FROM THE GUTTER TO THE TOP OF THE RAIL.

BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

SEE "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE" FOR ADDITIONAL HARDWARE INFORMATION. THE MN/DOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SHALL GOVERN.

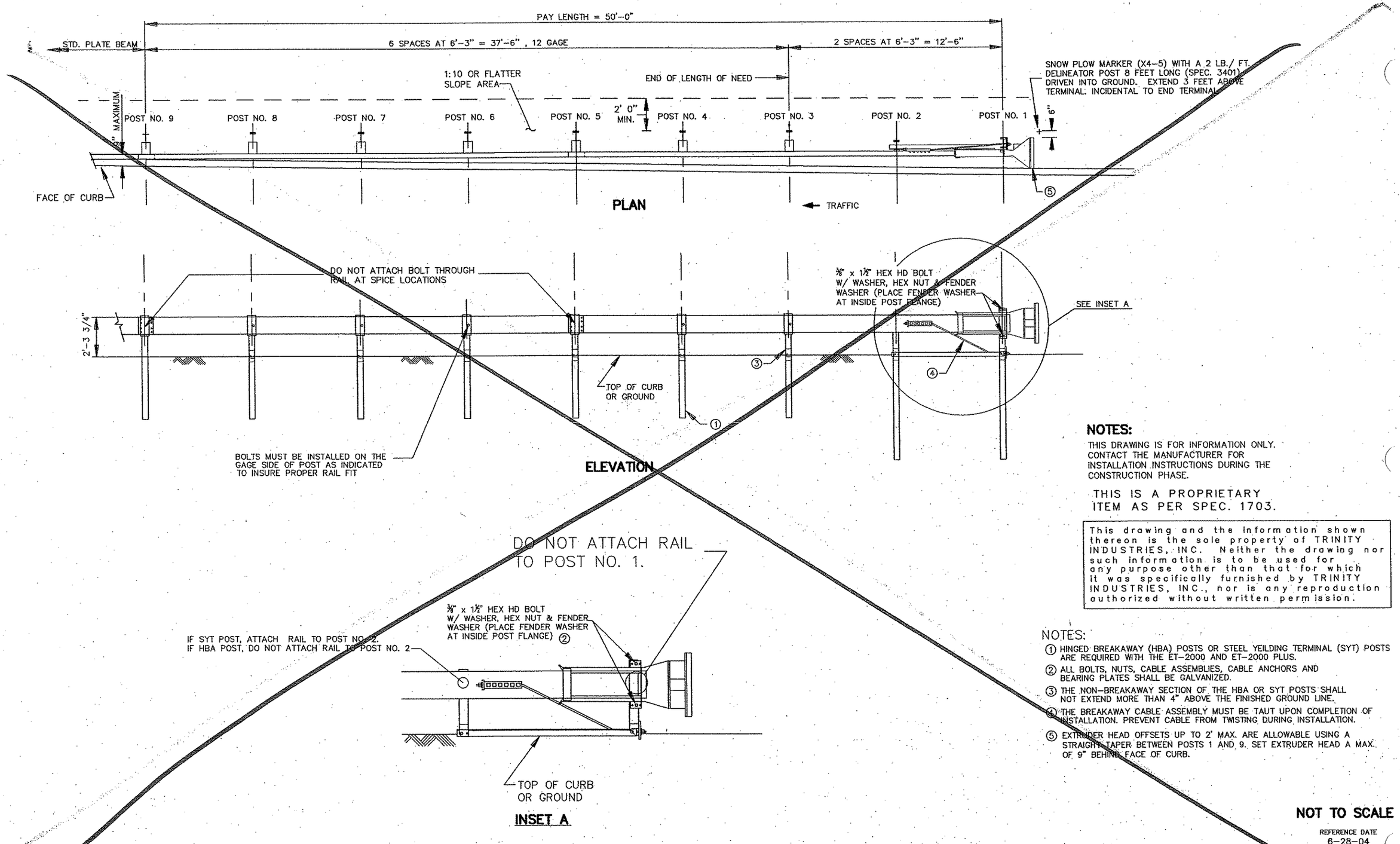
① DIFFERENCE IN HEIGHT BETWEEN THE TRANSITION AND INPLACE OR STANDARD W-BEAM RAIL SHALL BE MADE UP IN THE FIRST FULL W-BEAM RAIL SECTION FOLLOWING THE TRANSITION.

STANDARD SHEET NO. 5-297.614	TITLE: W-BEAM TO THRIE BEAM TRANSITION
STANDARD APPROVED: AUGUST 20, 2001	

STATE PROJ. NO. 0215-59 (T.H. 10) SHEET NO. 70 OF 681 SHEETS

PLOTTED/REVISED: $$$$$ $$$$$ $$$@PATHFILE$ PATH & FILE NAME: PLOT$NAME@$$ IPLOT NAME: FILE NAME S61 spn

Xref'd Drawings
—DWG—BDR
34bdr



NOTES:

THIS DRAWING IS FOR INFORMATION ONLY. CONTACT THE MANUFACTURER FOR INSTALLATION INSTRUCTIONS DURING THE CONSTRUCTION PHASE.

THIS IS A PROPRIETARY ITEM AS PER SPEC. 1703.

This drawing and the information shown thereon is the sole property of TRINITY INDUSTRIES, INC. Neither the drawing nor such information is to be used for any purpose other than that for which it was specifically furnished by TRINITY INDUSTRIES, INC., nor is any reproduction authorized without written permission.

NOTES:

① HINGED BREAKAWAY (HBA) POSTS OR STEEL YEILDING TERMINAL (SYT) POSTS ARE REQUIRED WITH THE ET-2000 AND ET-2000 PLUS.

② ALL BOLTS, NUTS, CABLE ASSEMBLIES, CABLE ANCHORS AND BEARING PLATES SHALL BE GALVANIZED.

③ THE NON-BREAKAWAY SECTION OF THE HBA OR SYT POSTS SHALL NOT EXTEND MORE THAN 4" ABOVE THE FINISHED GROUND LINE.

④ THE BREAKAWAY CABLE ASSEMBLY MUST BE TAUT UPON COMPLETION OF INSTALLATION. PREVENT CABLE FROM TWISTING DURING INSTALLATION.

⑤ EXTRUDER HEAD OFFSETS UP TO 2" MAX. ARE ALLOWABLE USING A STRAIGHT TAPER BETWEEN POSTS 1 AND 9. SET EXTRUDER HEAD A MAX. OF 9" BEHIND FACE OF CURB.

NOT TO SCALE

REFERENCE DATE
6-28-04

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: PMJ	DESIGN BY: SAW
CHKED. BY: SAW	DWG. NAME: ET2000
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

ET-2000 END TREATMENT

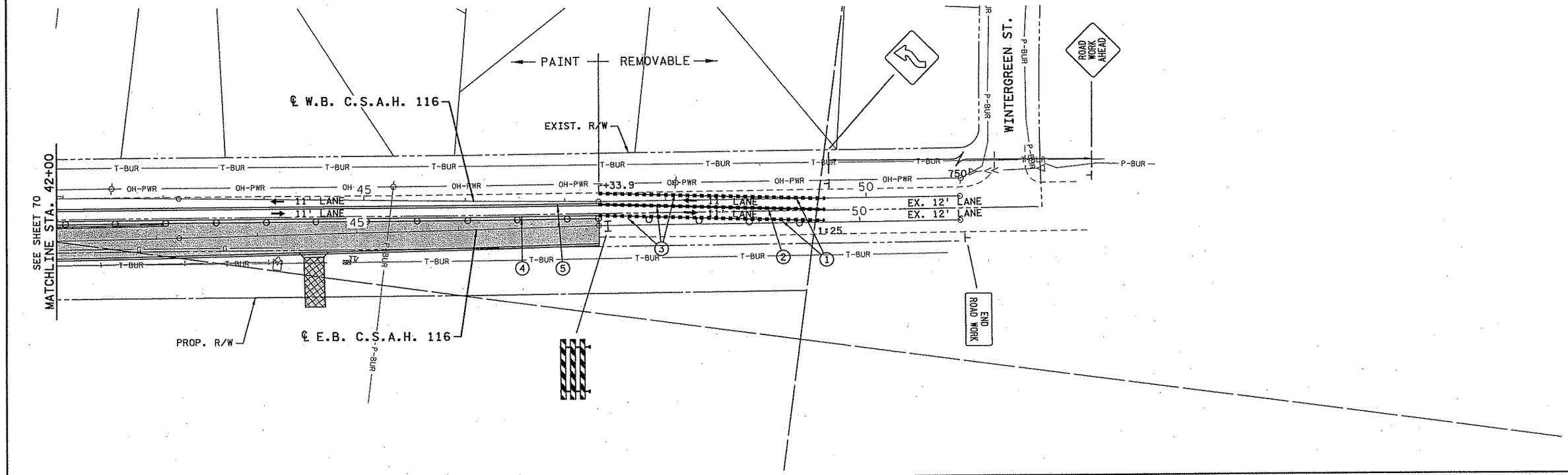
(STEEL POSTS)

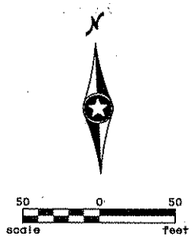
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 71

681

PLOT DATE: Jan 2007 10:56am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\ET2000_dgn.dwg





NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2A CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\h1-mu\Plan\5404.H2J

10:50:03 AM
6/15/2007
h:\projects\5404\h1-mu\Plan\5404.H2J

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

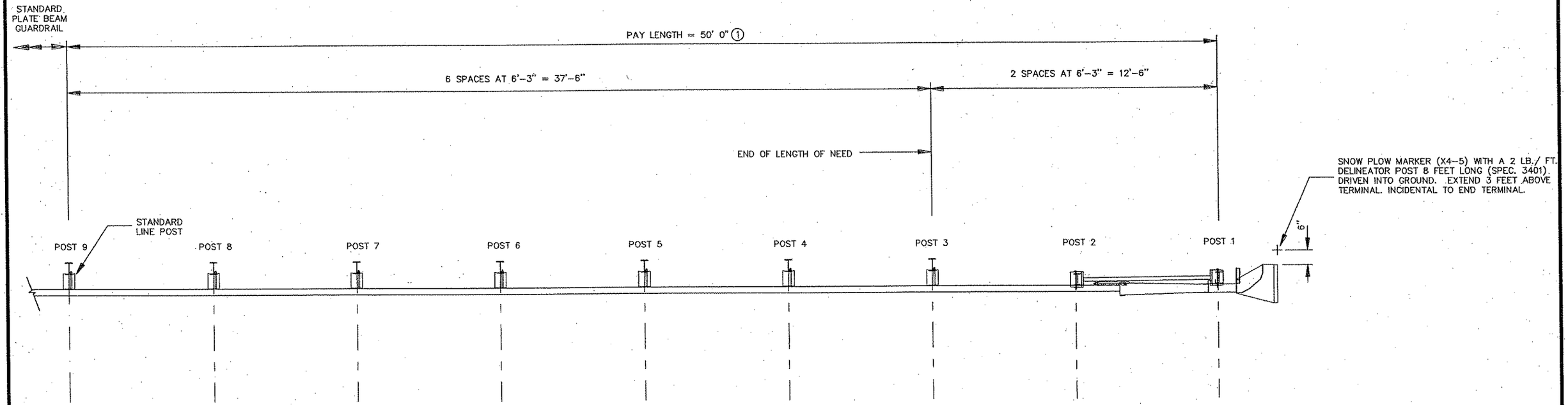
SRF CONSULTING GROUP, INC.

ANOKA COUNTY

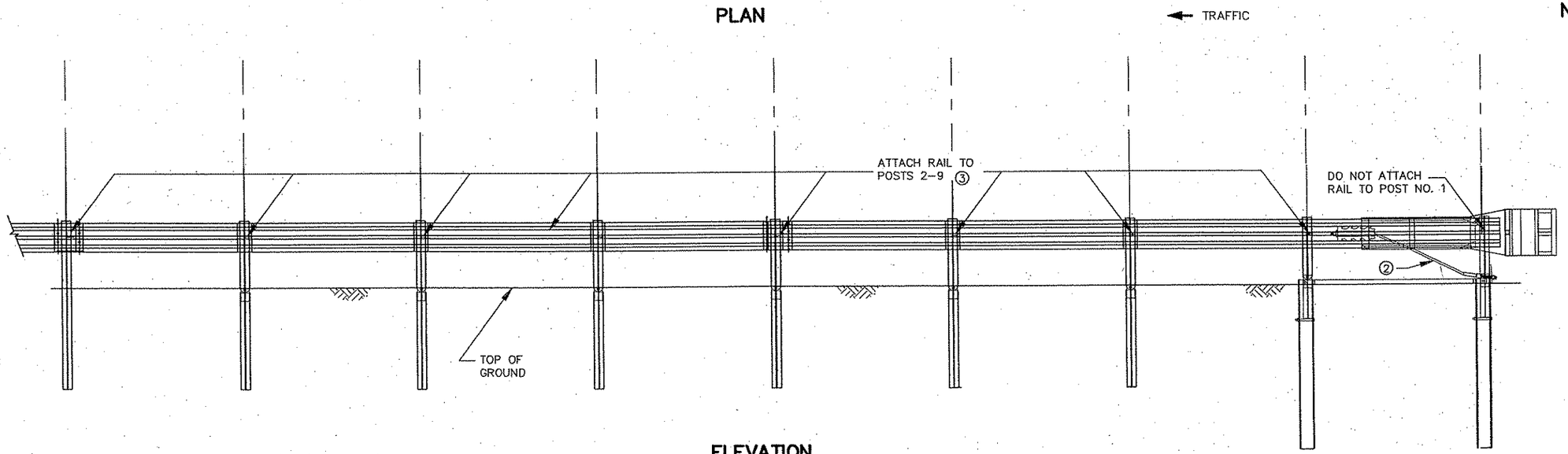
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
C.S.A.H. 116 STAGE 2A

SHEET 71 OF 400

Xref'd Drawings
--DWG--BDR
c34bdr



PLAN



ELEVATION

NOTES:

STEEL BREAKAWAY POSTS ARE REQUIRED WITH THE SEQUENTIAL KINKING TERMINAL (SKT).

ALL BOLTS, NUTS, CABLE ASSEMBLIES, CABLE ANCHORS AND BEARING PLATES SHALL BE GALVANIZED.

A SPECIAL SITE EVALUATION SHOULD BE CONSIDERED PRIOR TO USING THE SKT WHERE THERE IS LESS THAN 25' BETWEEN THE OUTLET SIDE OF THE SKT AND ANY ADJACENT DRIVING LANE.

(1) THE SKT CAN BE FLARED AT A MAXIMUM RATE OF 25:1 TO PREVENT THE IMPACT HEAD FROM ENCROACHING ON THE SHOULDER. THE FLARE IS NOT REQUIRED AND MAY BE DECREASED OR ELIMINATED FOR SPECIFIC INSTALLATIONS. IF FLARED, FLARE OVER ENTIRE TERMINAL LENGTH.

(2) THE BREAKAWAY CABLE ASSEMBLY MUST BE TAUT. A LOCKING DEVICE, (VICE GRIPS OR CHANNELBACK PLIERS) SHOULD BE USED TO PREVENT THE CABLE FROM TWISTING WHEN TIGHTENING NUTS.

(3) POSTS 2-9 HAVE RAIL ATTACHED WITH BOLT, WASHER, AND NUT.

THIS DRAWING IS TO BE USED ONLY FOR PICTORIAL REPRESENTATION.
DESIGN CHANGES ARE NOT ALWAYS SHOWN.

CONTACT MANUFACTURER FOR INSTALLATION INSTRUCTIONS.

THIS IS A PROPRIETARY ITEM AS PER SPEC. 1703.

NOT TO SCALE

REFERENCE DATE
8-1-03

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: SKT350PW
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

SKT-350 END TREATMENT

(STEEL PLUG WELDED POSTS)

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 71A / 681

PLOT DATE: Jan J07 10:55am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\SKT350_dgn.dwg

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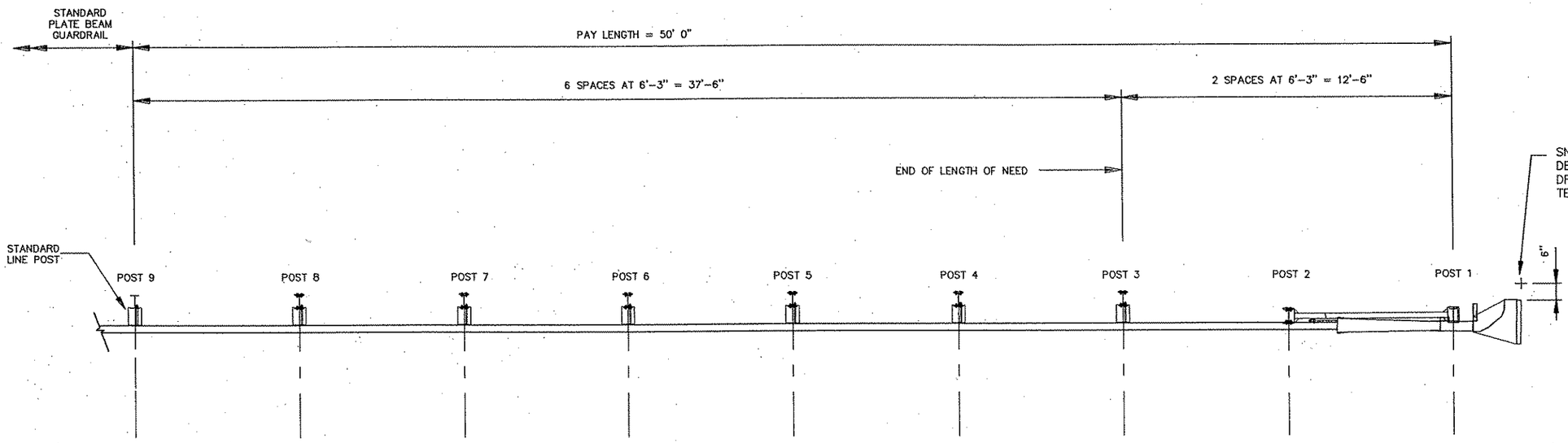
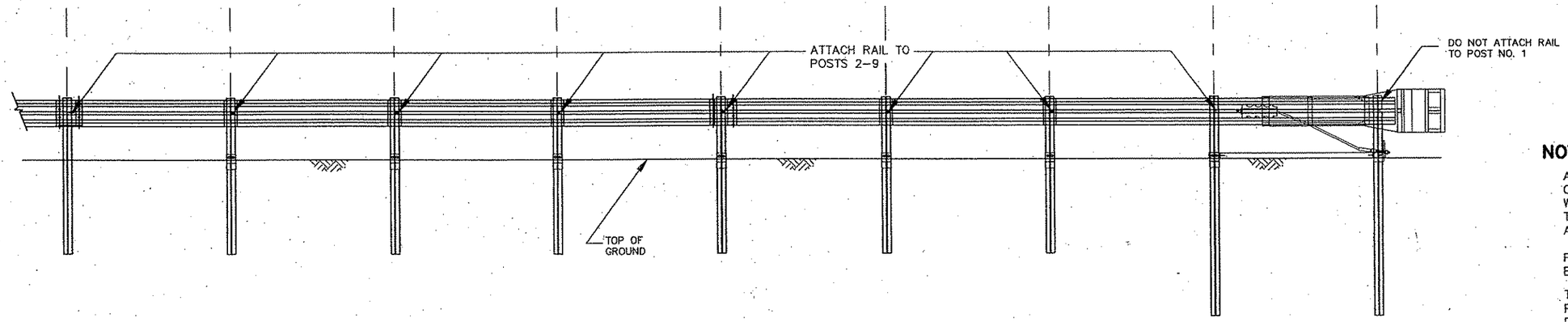
x34bdr



PLAN

TRAFFIC



ELEVATION

NOTES:

A SPECIAL SITE EVALUATION SHOULD BE CONSIDERED PRIOR TO USING THE SKT WHERE THERE IS LESS THAN 25' BETWEEN THE OUTLET SIDE OF THE SKT AND ANY ADJACENT DRIVING LANE.

POSTS 2-9 HAVE RAIL ATTACHED WITH BOLT, WASHER, AND NUT.

THIS DRAWING IS TO BE USED ONLY FOR PICTORIAL REPRESENTATION. DESIGN CHANGES ARE NOT ALWAYS SHOWN.

CONTACT MANUFACTURER FOR INSTALLATION INSTRUCTIONS.

THIS IS A PROPRIETARY ITEM AS PER SPEC. 1703.

NOT TO SCALE

REFERENCE DATE 8-1-03

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: SKT350BH
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

SKT-350 END TREATMENT

(STEEL BOLTED HINGED POSTS)

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 71B / 681

PLOT DATE: Jan 7 10:54am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\SKT350BI _dgn.dwg

LEGEND

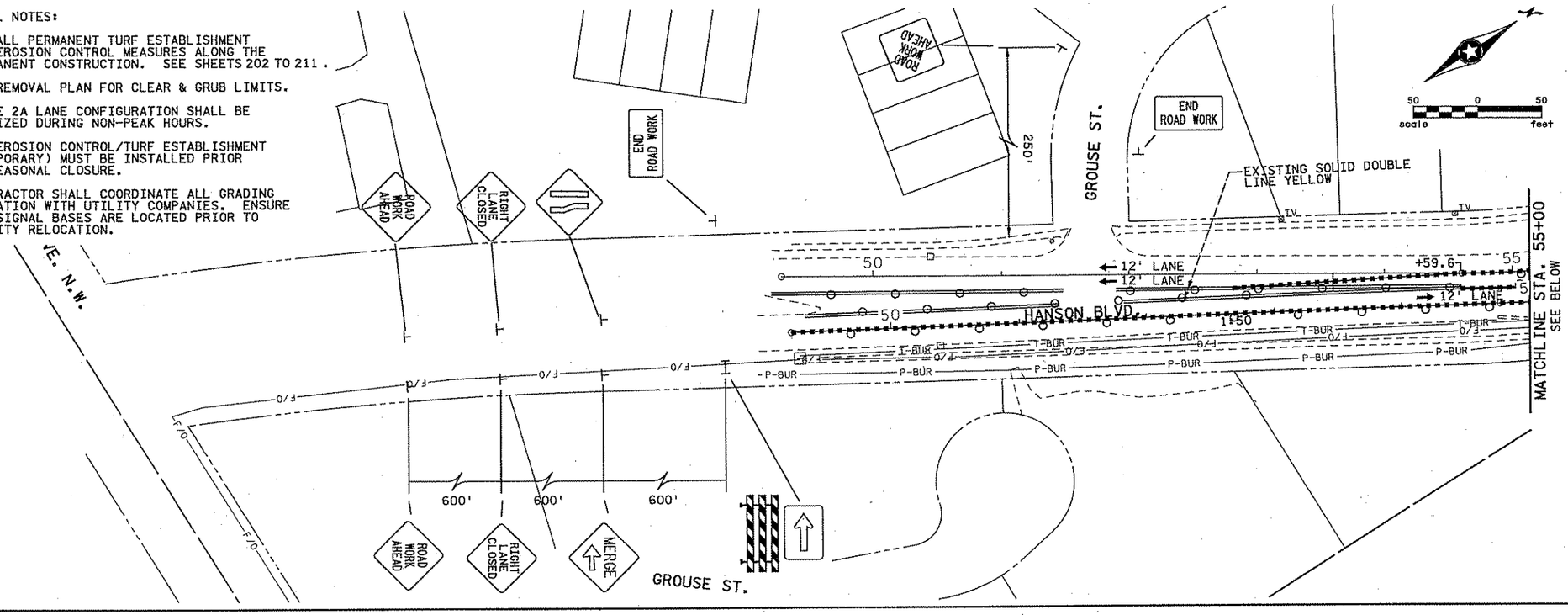
- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2B CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

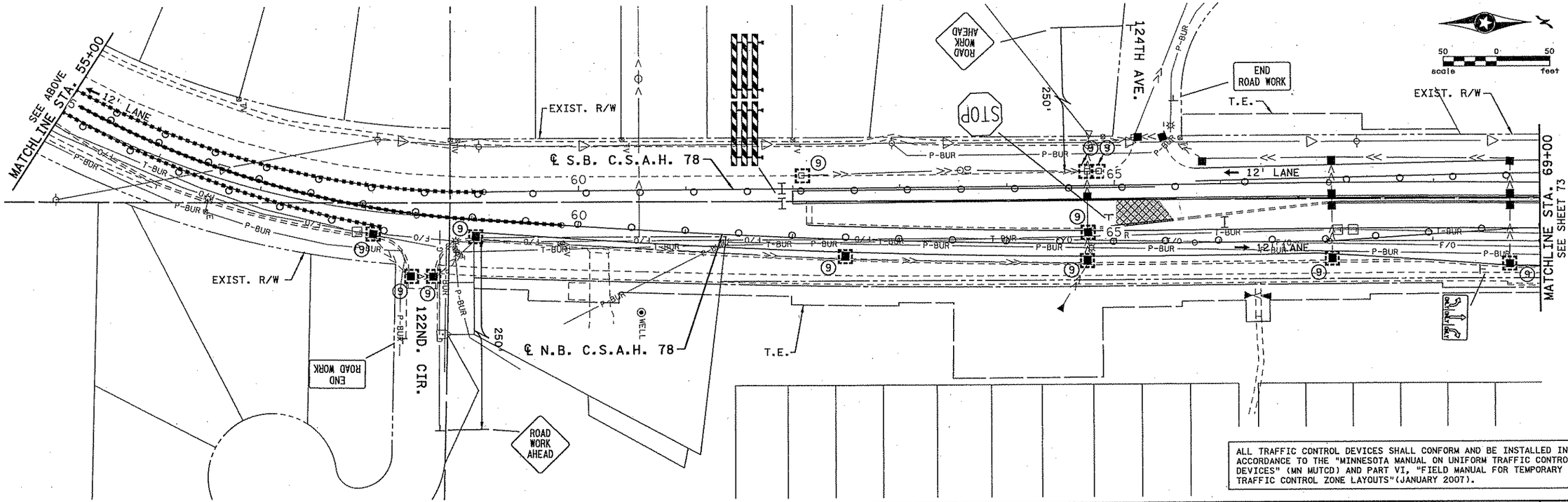
NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

GENERAL NOTES:

- INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.
- SEE REMOVAL PLAN FOR CLEAR & GRUB LIMITS.
- STAGE 2A LANE CONFIGURATION SHALL BE UTILIZED DURING NON-PEAK HOURS.
- ALL EROSION CONTROL/TURF ESTABLISHMENT (TEMPORARY) MUST BE INSTALLED PRIOR TO SEASONAL CLOSURE.
- CONTRACTOR SHALL COORDINATE ALL GRADING OPERATION WITH UTILITY COMPANIES. ENSURE NEW SIGNAL BASES ARE LOCATED PRIOR TO UTILITY RELOCATION.





ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
...\5404\h1-mu\Plan\5404.HOA					

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/6 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

STAGE 2B

SHEET 72 OF 400

10149121 AM
6/15/2007
h:\projects\5404\h1-mu\Plan\5404.HOA

Xref'd Drawings
1-keel-sig
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SN-EUT
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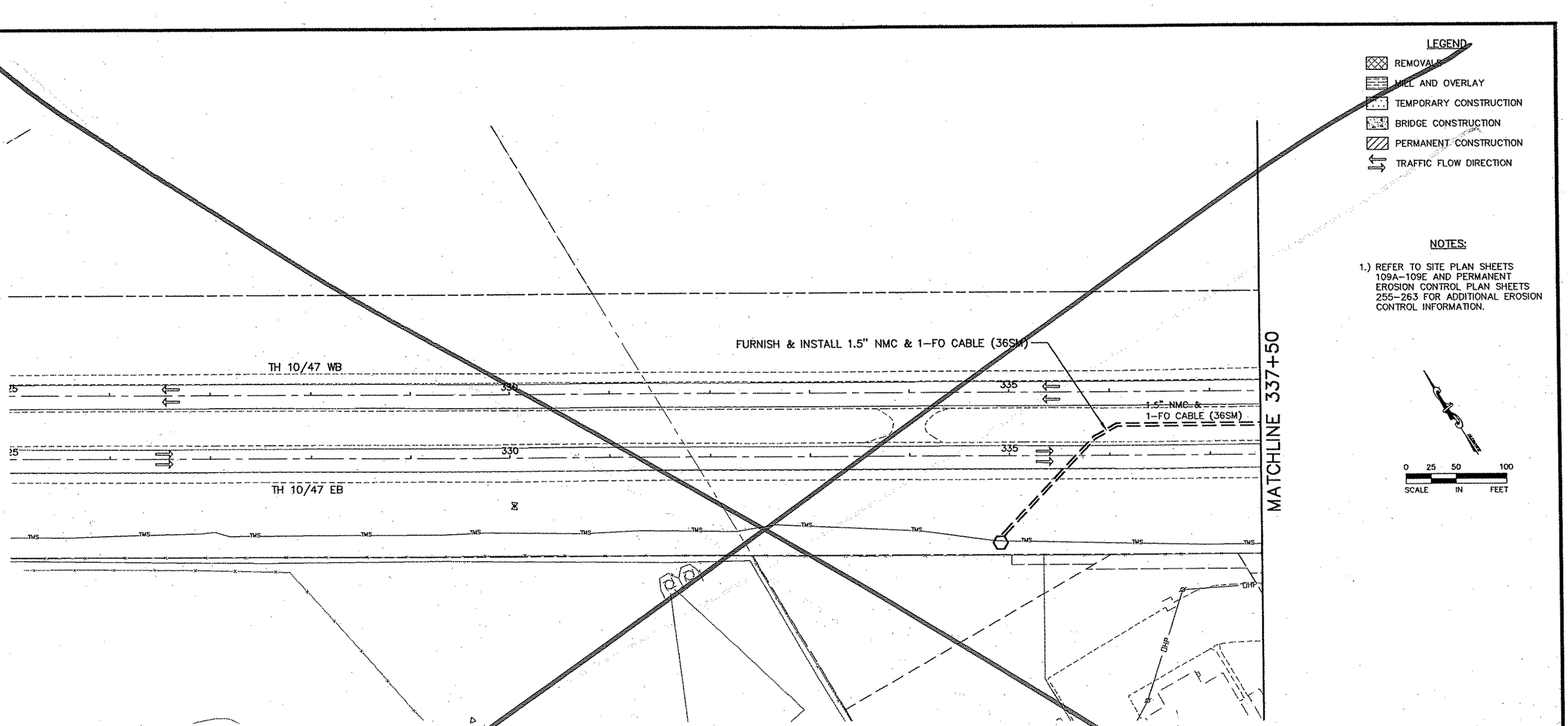
F-DW0
SN-ES
x34bdr



STAGE 1 PHASE 1 TRAFFIC
- TEMPORARY LANE RESTRICTIONS TH 10/47 EASTBOUND AND WESTBOUND.
- ALL LANES OPEN TO TRAFFIC.

STAGE 1 PHASE 1 CONSTRUCTION
- CONSTRUCT TMS CONDUIT AND CABLE IN TH 10/47 MEDIAN.

STAGE 1 PHASE 1 EROSION CONTROL
- RESTORE DISTURBED AREAS THAT ARE WITHIN CONSTRUCTION LIMITS OF FUTURE PHASES WITH TEMPORARY SEED MIX AND MULCH. REFER TO PERMANENT TURF ESTABLISHMENT PLAN FOR RESTORATION OF AREAS OUTSIDE OF FUTURE PHASE WORK LIMITS.

NOTE: TMS CONDUIT AND CABLE SHALL BE CONSTRUCTED AND THE SYSTEM SHALL BE OPERATIONAL PRIOR TO REMOVAL OF EXISTING TMS CONDUIT ALONG EB TH 10/47, RAMP C, AND RAMP D. TMS SYSTEM MUST REMAIN IN SERVICE AT ALL TIMES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG00
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION STAGING PLAN
T.H. 10/47
STAGE 1 PHASE 1

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 72 / 681

PLOT DATE: Jan 17 12:18pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0

Xref'd Drawings
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TG1P1
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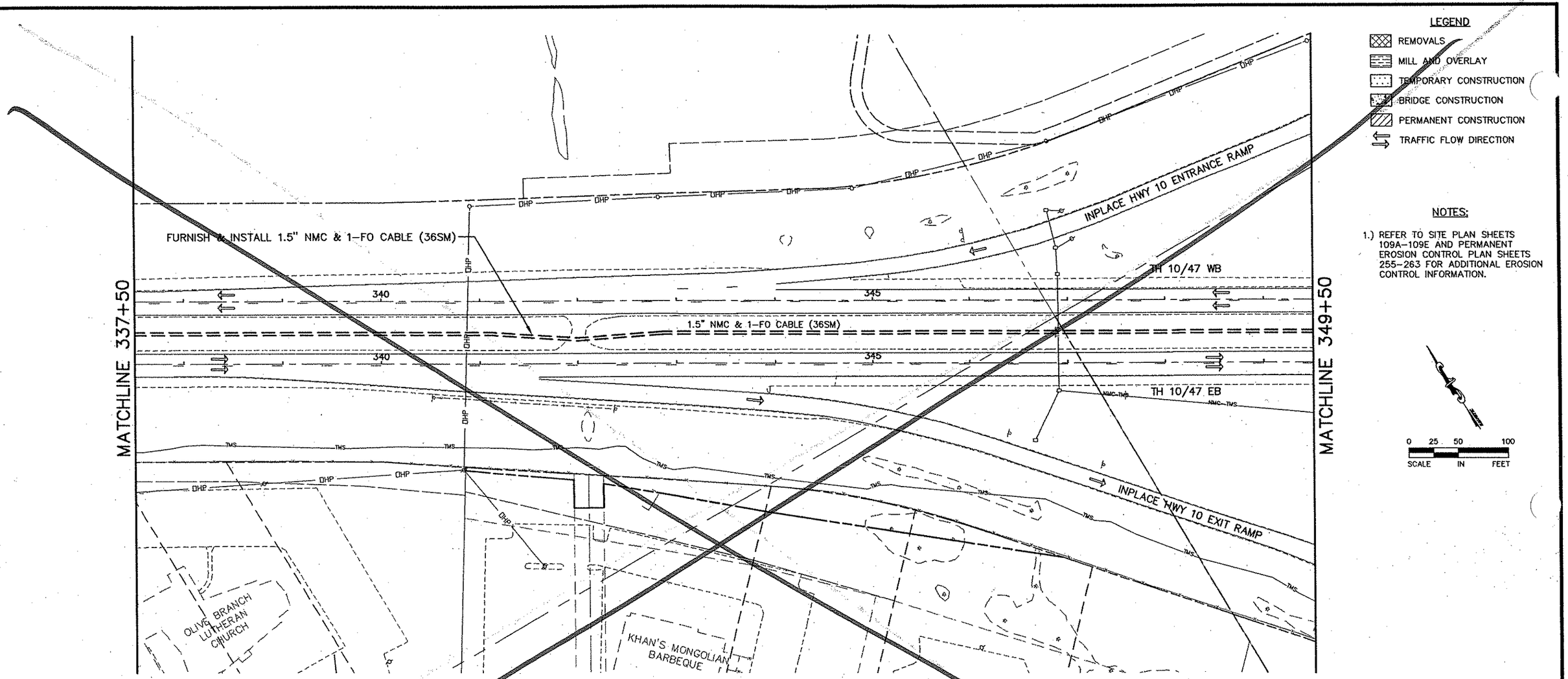
-EXIST
SN-EUT
_EGEND
-striping
SN-ETO
SN-AI
:-DWK
SN-ES
<34bdr



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A-109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255-263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 1 TRAFFIC

- TEMPORARY LANE RESTRICTIONS TH 10/47 EASTBOUND AND WESTBOUND.
- ALL LANES OPEN TO TRAFFIC.

STAGE 1 PHASE 1 CONSTRUCTION

- CONSTRUCT TMS CONDUIT AND CABLE IN TH 10/47 MEDIAN.

STAGE 1 PHASE 1 EROSION CONTROL

- RESTORE DISTURBED AREAS THAT ARE WITHIN CONSTRUCTION LIMITS OF FUTURE PHASES WITH TEMPORARY SEED MIX AND MULCH. REFER TO PERMANENT TURF ESTABLISHMENT PLAN FOR RESTORATION OF AREAS OUTSIDE OF FUTURE PHASE WORK LIMITS.

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2 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG00A
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION STAGING PLAN
T.H. 10/47
STAGE 1 PHASE 1

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 73
681

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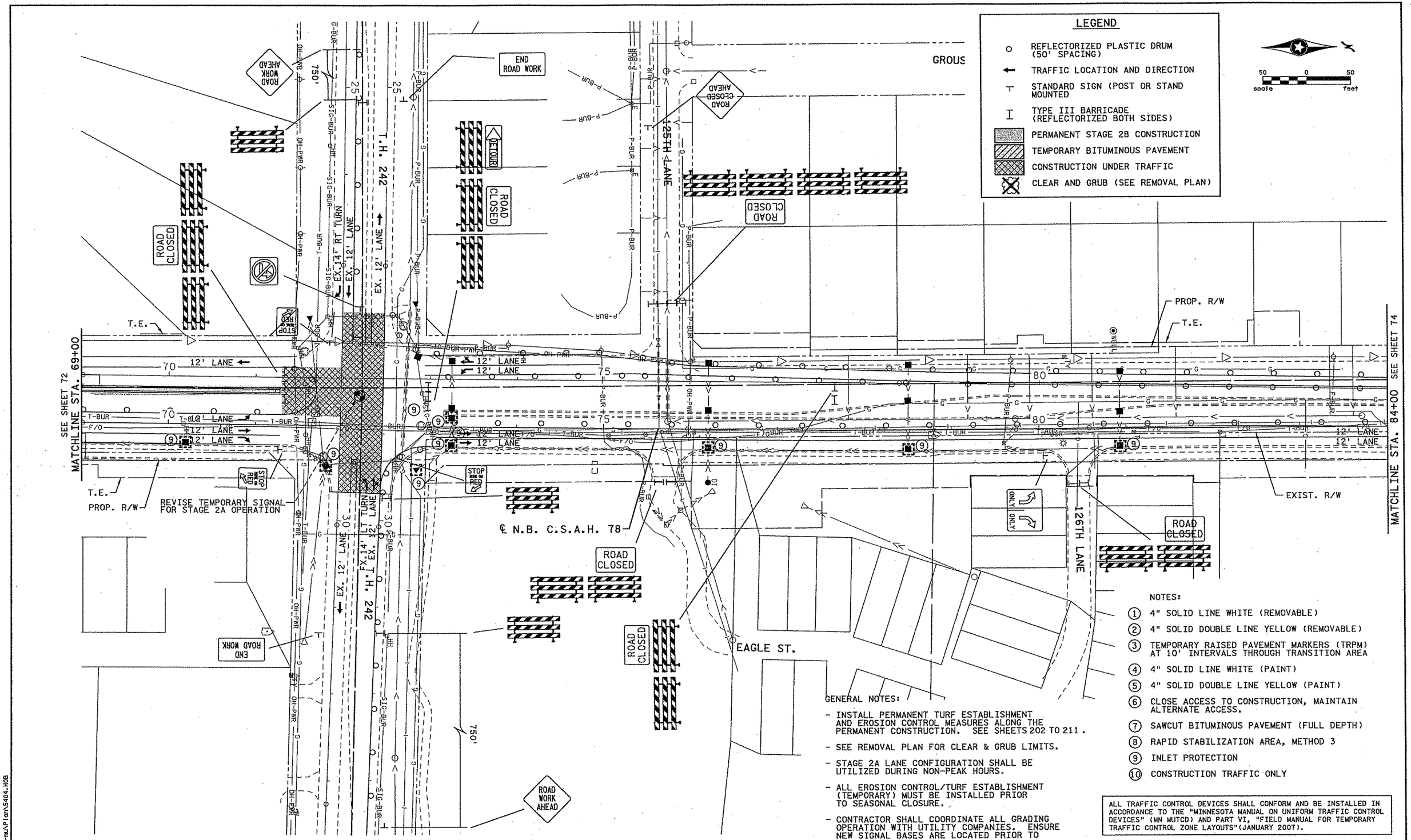

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
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10. CONSTRUCTION TRAFFIC ONLY

GENERAL NOTES:

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NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
...\5404\h1-mu\Plan\5404.HOB					

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: CHRIS M. TRBOYEVICH
Date 6/15/07 License # 41635

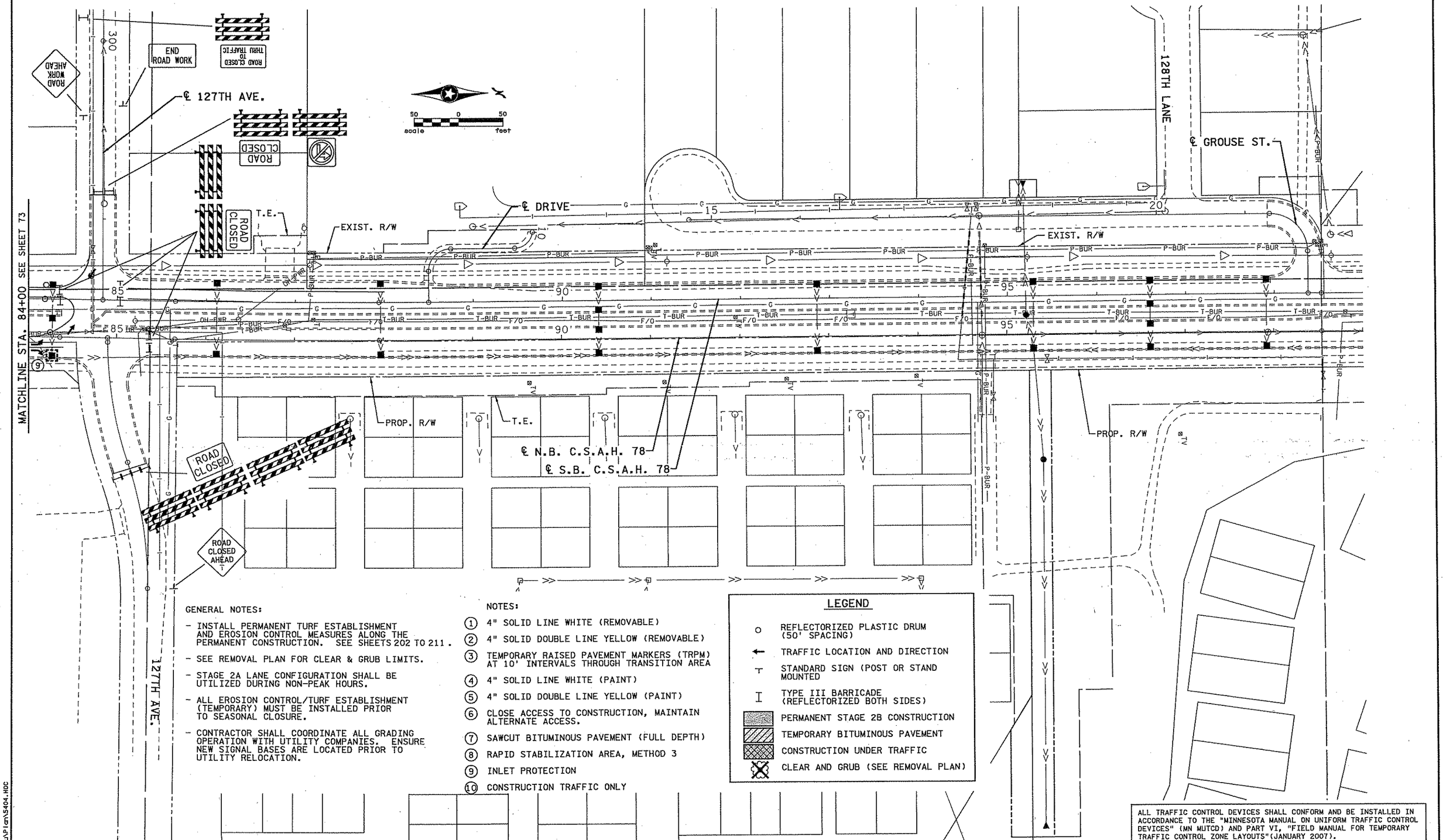
STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2B

SHEET 73 OF 400

10149122 AM
6/15/2007
h:\projects\5404\h1-mu\Plan\5404.HOB



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9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2B CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
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NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.HOC

10:49:24 AM
6/15/2007
h:\projects\5404\hl-mu\Plan\5404.HOC

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2B

SHEET 74 OF 400

Xref'd Drawings
1-keel-sig
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SN-EUT
TG1P1
NOTES1-1
-EXIST
SN-DWG
SN-ESM
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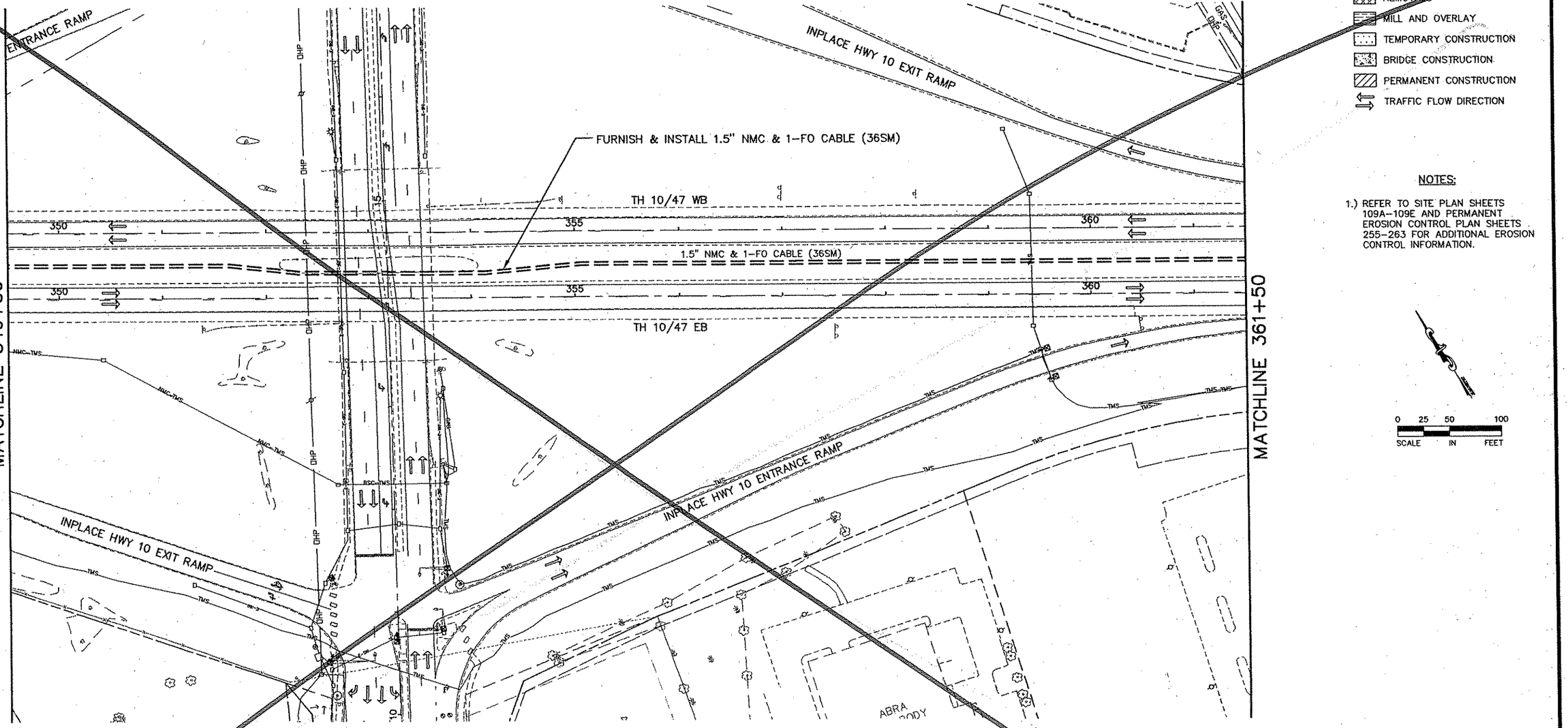

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

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0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 1 TRAFFIC

- TEMPORARY LANE RESTRICTIONS TH 10/47 EASTBOUND AND WESTBOUND.
- ALL LANES OPEN TO TRAFFIC.

STAGE 1 PHASE 1 CONSTRUCTION

- CONSTRUCT TMS CONDUIT AND CABLE IN TH 10/47 MEDIAN.

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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY:	IKR
DESIGN BY:	JRM
CHKED. BY:	LOM
DWG. NAME:	CSTG00B
DATE:	JANUARY 8, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

T.H. 10/47

STAGE 1 PHASE 1

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 74 / 681

PLOT DATE: Jan 17 12:19pm DISK FILE NAME: (16.1) R:\33869\33889042\PLAN-SHT\TRAF-CONT-STAGE\0[illegible]00B.dwg

Xref'd Drawings
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D-ESM
ISN-EUT
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TG1P1
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LEGEND
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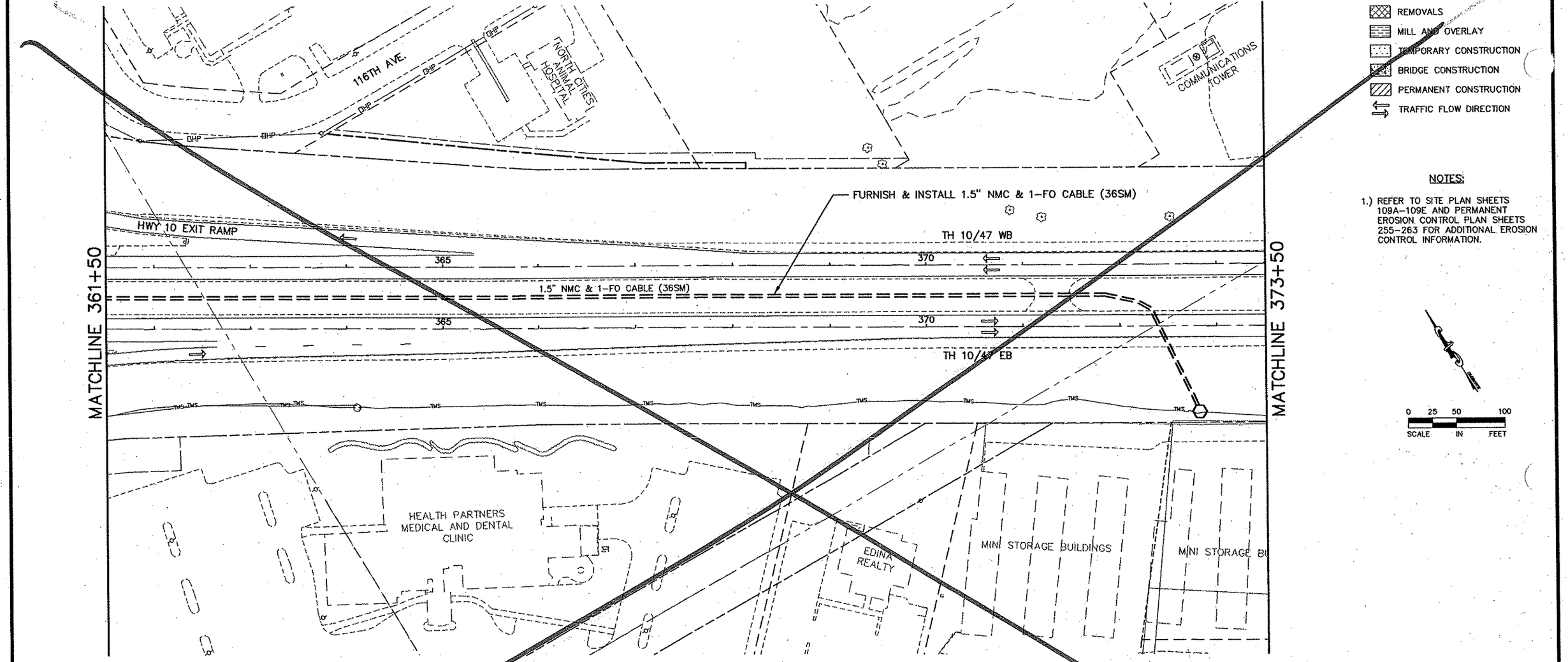
ISN-AI
F-DW
ISN-ES
x34bdr



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 1 TRAFFIC

- TEMPORARY LANE RESTRICTIONS TH 10/47 EASTBOUND AND WESTBOUND.
- ALL LANES OPEN TO TRAFFIC.

STAGE 1 PHASE 1 CONSTRUCTION

- CONSTRUCT TMS CONDUIT AND CABLE IN TH 10/47 MEDIAN.

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DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG00C
DATE: JANUARY 8, 2006

URS
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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

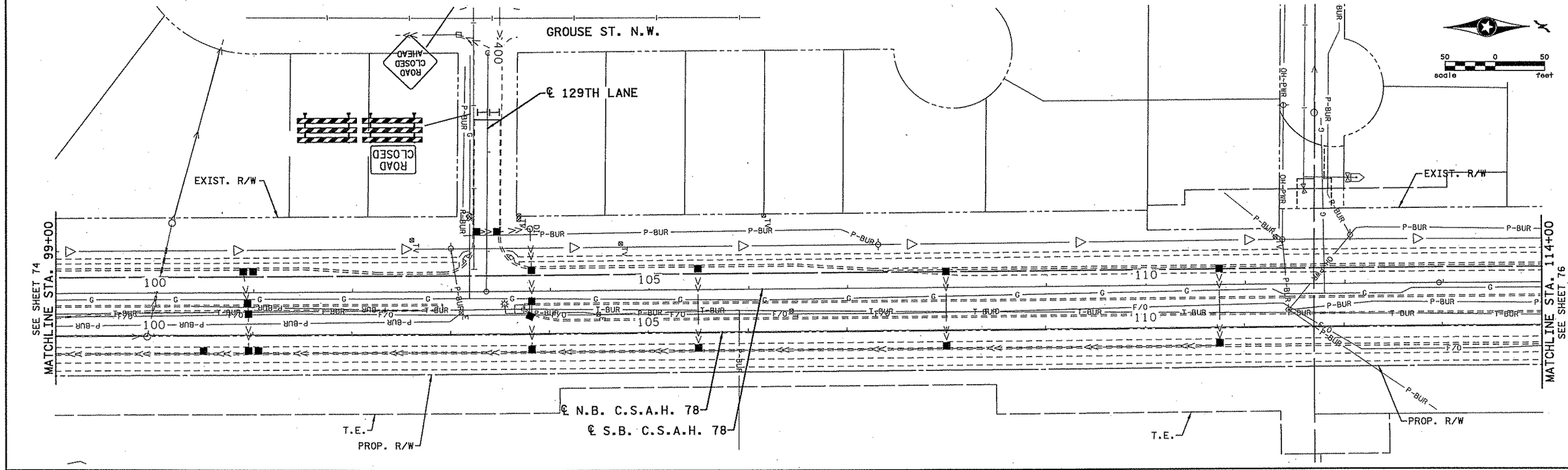
T.H. 10/47

STAGE 1 PHASE 1

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 75 OF 681

PLOT DATE: Jan 17 12:19pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0...dwg



GENERAL NOTES:

- INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .
- SEE REMOVAL PLAN FOR CLEAR & GRUB LIMITS.
- STAGE 1A LANE CONFIGURATION SHALL BE UTILIZED DURING NON-PEAK HOURS.
- ALL EROSION CONTROL/TURF ESTABLISHMENT (TEMPORARY) MUST BE INSTALLED PRIOR TO SEASONAL CLOSURE.
- CONTRACTOR SHALL COORDINATE ALL GRADING OPERATION WITH UTILITY COMPANIES. ENSURE NEW SIGNAL BASES ARE LOCATED PRIOR TO UTILITY RELOCATION.

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2B CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
...\5404\h1-mu\Plan\5404.HOD					

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

STAGE 2B

SHEET 75 OF 400

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6/15/2007
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GROUSE ST. N.W.

132ND AVE. N.W.

℄ S.B. C.S.A.H. 78

EXIST. R/W

EXIST. R/W

℄ 133RD AVE. W.

50 0 50
scale feet

MATCHLINE STA. 114+00 SEE SHEET 75

MATCHLINE STA. 129+50 SEE SHEET 77

PROP. R/W

℄ N.B. C.S.A.H. 78

T.E.

PROP. R/W

T.E.

132ND AVE.

132ND LANE

℄ 133RD AVE. E.

CRANE ST.

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
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7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

GENERAL NOTES:

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- ALL EROSION CONTROL/TURF ESTABLISHMENT (TEMPORARY) MUST BE INSTALLED PRIOR TO SEASONAL CLOSURE.
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LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2B CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
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- CLEAR AND GRUB (SEE REMOVAL PLAN)

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NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.HOE

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO. 02-678-16

STATE PROJECT NO. X

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY D.FITCHORN

DESIGNED BY C.TRBOYEVICH

CHECKED BY M. TURNER

COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

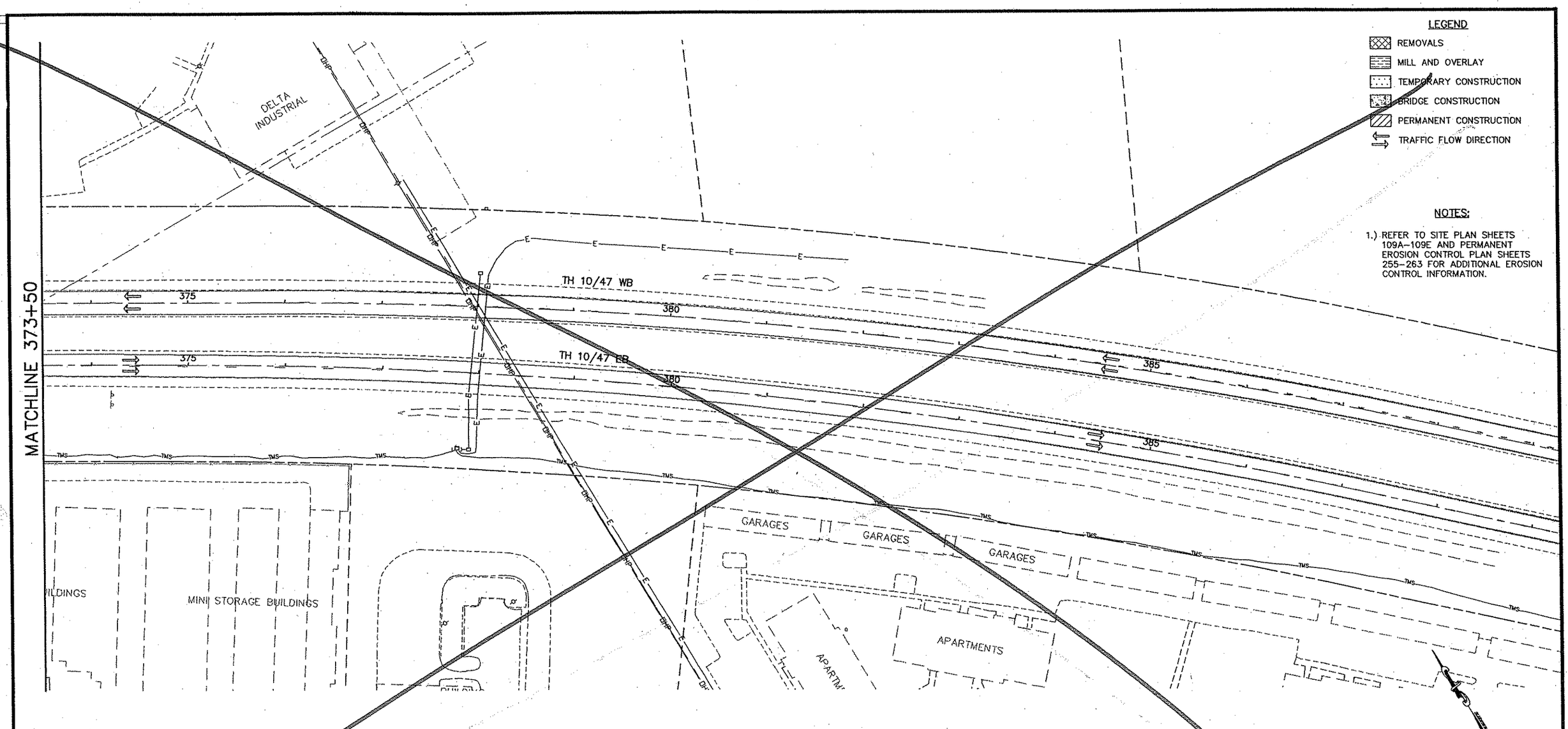
STAGING AND TRAFFIC CONTROL PLAN

C.S.A.H. 78

STAGE 2B

SHEET 76 OF 400

10:49:28 AM
6/15/2007
N:\projects\5404\hl-mu\Plan\5404.HOE



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

STAGE 1 PHASE 1 TRAFFIC

- TEMPORARY LANE RESTRICTIONS TH 10/47 EASTBOUND AND WESTBOUND.
- ALL LANES OPEN TO TRAFFIC.

STAGE 1 PHASE 1 CONSTRUCTION

- CONSTRUCT TMS CONDUIT AND CABLE IN TH 10/47 MEDIAN.

STAGE 1 PHASE 1 EROSION CONTROL

- RESTORE DISTURBED AREAS THAT ARE WITHIN CONSTRUCTION LIMITS OF FUTURE PHASES WITH TEMPORARY SEED MIX AND MULCH. REFER TO PERMANENT TURF ESTABLISHMENT PLAN FOR RESTORATION OF AREAS OUTSIDE OF FUTURE PHASE WORK LIMITS.

NOTE: TMS CONDUIT AND CABLE SHALL BE CONSTRUCTED AND THE SYSTEM SHALL BE OPERATIONAL PRIOR TO REMOVAL OF EXISTING TMS CONDUIT ALONG EB TH 10/47, RAMP C, AND RAMP D. TMS SYSTEM MUST REMAIN IN SERVICE AT ALL TIMES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: CSTGOOD
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

T.H. 10/47

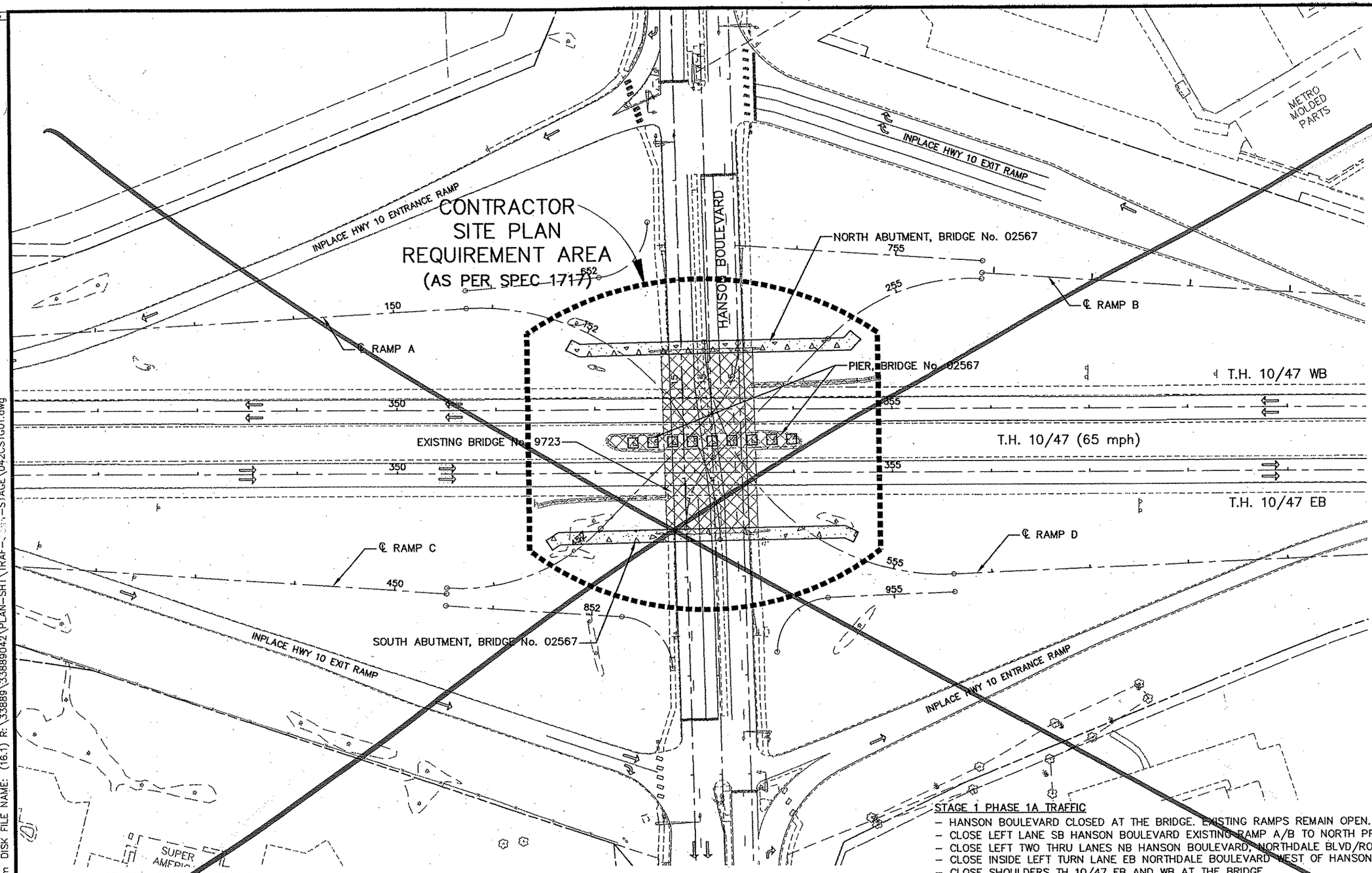
STAGE 1 PHASE 1

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 76 / 681

PLOT DATE: Jan 07 12:19pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 00D.dwg

Xref'd Drawings
-l-keel-sig
D-ESN
TG1P1A-PCO
TG1P1A
NOTES1-1A
-striping
-S1P1
ISN-ALI
LEGEND
F-DWG
ISN-E
ISN-E
x34bdr



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

STAGE 1 PHASE 1A EROSION CONTROL

- PROVIDE TEMPORARY DOWN DRAINS FOR BRIDGE ABUTMENT CONSTRUCTION AS NEEDED.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.

STAGE 1 PHASE 1A TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. EXISTING RAMPS REMAIN OPEN. FOLLOW DETOUR.
- CLOSE LEFT LANE SB HANSON BOULEVARD EXISTING RAMP A/B TO NORTH PROJECT LIMITS.
- CLOSE LEFT TWO THRU LANES NB HANSON BOULEVARD, NORTHDALE BLVD/ROBINSON DRIVE TO EXISTING RAMP C/D.
- CLOSE INSIDE LEFT TURN LANE EB NORTHDALE BOULEVARD WEST OF HANSON BOULEVARD.
- CLOSE SHOULDERS TH 10/47 EB AND WB AT THE BRIDGE.
- WEEKEND CLOSURE TH 10/47 EB AND WB TO REMOVE BRIDGE. USE EXISTING RAMPS FOR DETOUR.

STAGE 1 PHASE 1A CONSTRUCTION

- REMOVE EXISTING BRIDGE NO. 9723.
- CONSTRUCT BRIDGE NO. 02567 SUBSTRUCTURE, PIER, NORTH AND SOUTH ABUTMENT.

1 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042	
DRAWN BY: JVF/IKR	DESIGN BY: JRM
CHKED. BY: LOM	DWG. NAME: CSTG01
DATE: JANUARY 8, 2006	

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

T.H. 10/47 & HANSON BOULEVARD INTERCHANGE

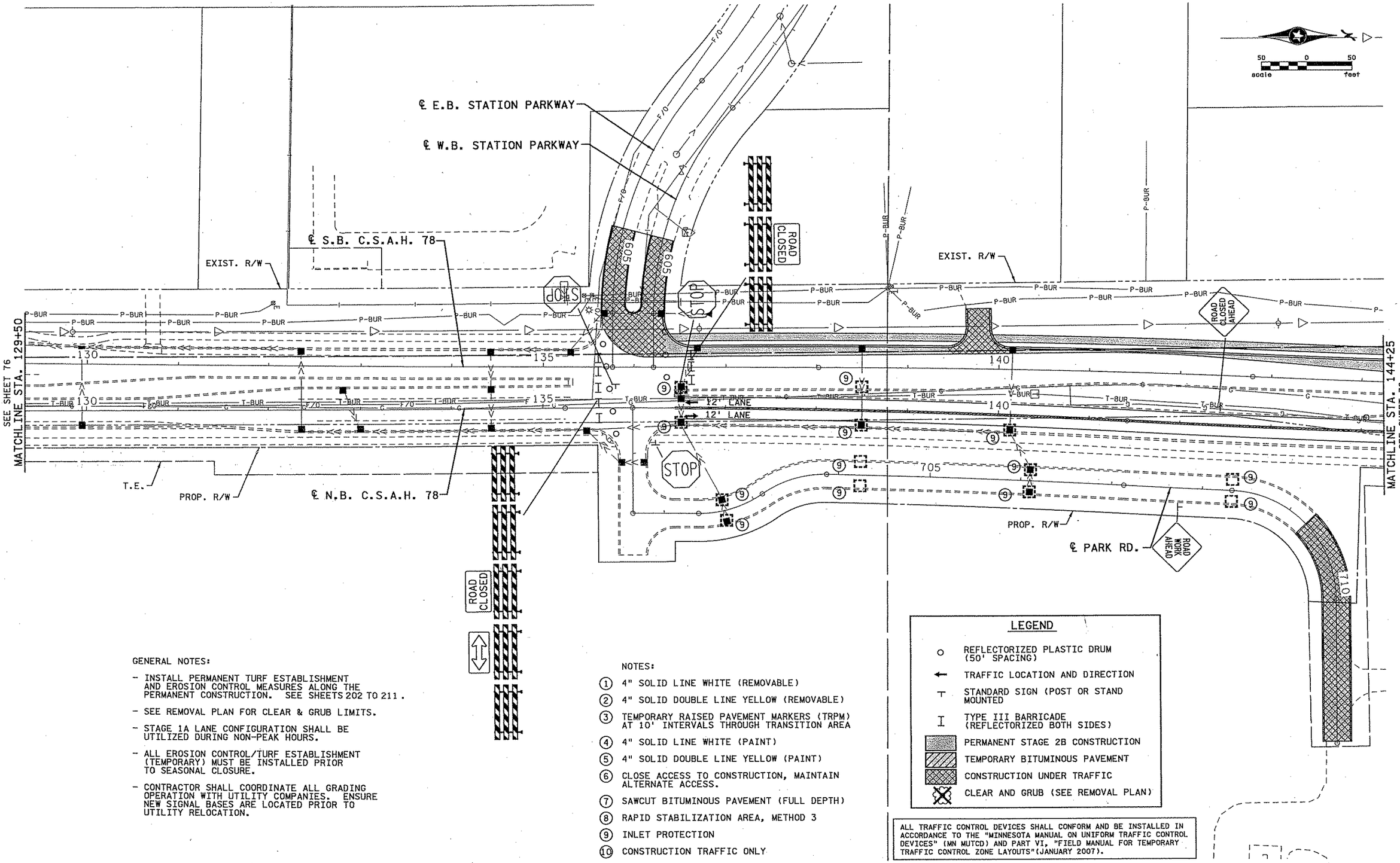
STAGE 1 PHASE 1A

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 77

681

PLOT DATE: Jan 8, 2007 12:19pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-STAGE\042CSTG01.dwg



GENERAL NOTES:

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NOTES:

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3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
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9. INLET PROTECTION
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LEGEND

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- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
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- CLEAR AND GRUB (SEE REMOVAL PLAN)

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NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\Plan\5404.HOF

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

STAGE 2B

SHEET 77 OF 400

10:49:27 AM
6/15/2007
N:\Projects\5404\hl-mu\Plan\5404.HOF

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
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- PERMANENT STAGE 2B CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

50 0 50 scale feet

REMOVE EXISTING MEDIAN AND BUILD CROSSOVER IN STAGE 1A

℄ W.B. C.S.A.H. 116

℄ E.B. C.S.A.H. 116

REVISE TEMPORARY SIGNAL FOR STAGE 2 OPERATION

℄ SERVICE RD.

EXIST. R/W

℄ S.B. C.S.A.H. 78

PROP. R/W

T.E.

℄ N.B. C.S.A.H. 78

PROP. R/W

EXIST. R/W

T.E.

ROAD CLOSED

T.E.

SEE SHEET 77 MATCHLINE STA. 144+25

SEE SHEET 79 MATCHLINE STA. 159+50

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10:49:30 AM
6/15/2007
h:\projects\5404\h1-mu\Plan\5404.HOG

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/13/07 License # 41635

STATE AID PROJECT NO. 02-678-16

STATE PROJECT NO. X

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY D.FITCHORN

DESIGNED BY C.TRBOYEVICH

CHECKED BY M. TURNER

COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

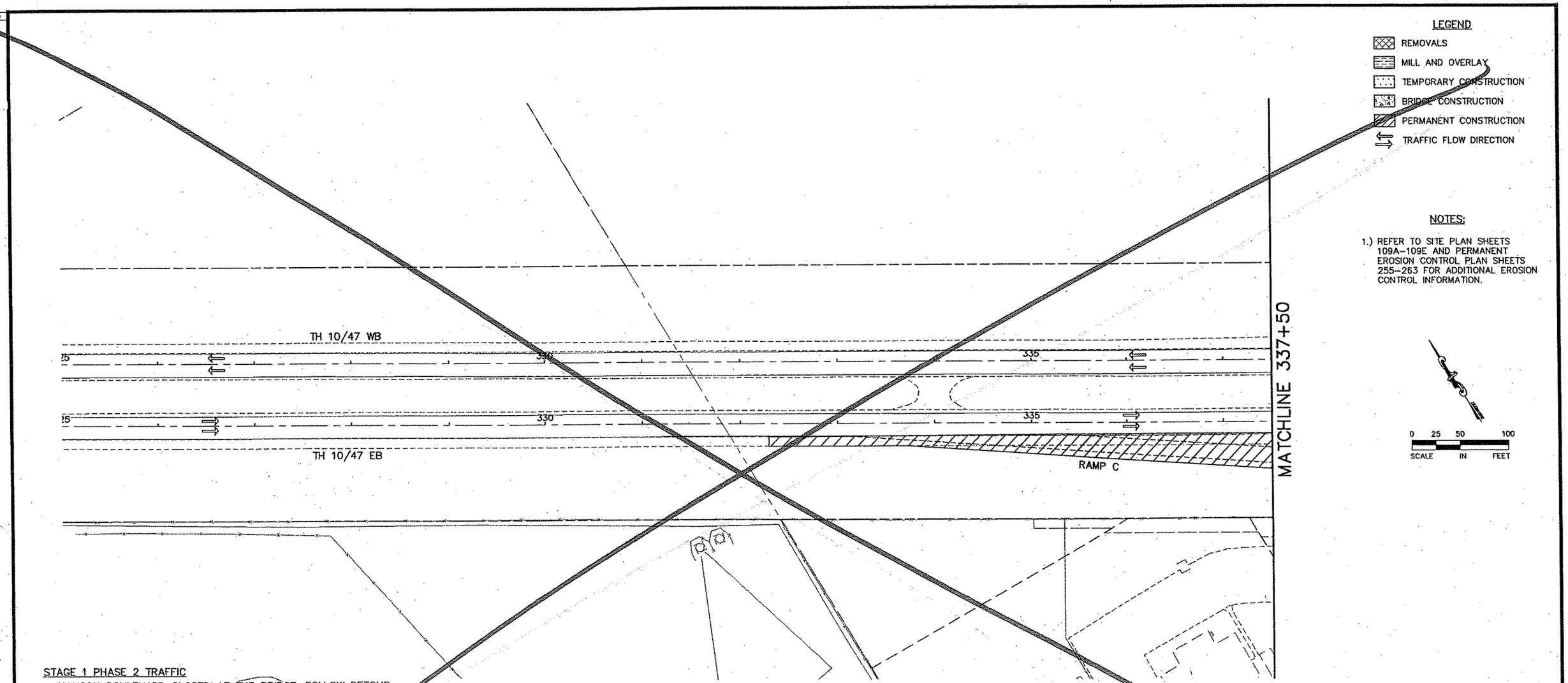
STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

STAGE 2B

SHEET 78 OF 400

XREFs, Drawings
n-keel
D-ESM
NOTES1-2
LEGEND
TG1P2
TG1P2-PCO
TG MASK
ISN-AU
F-DWG
ISN-ESU
x34bdr



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 2 TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE RIGHT LANE EB NORTHDALE BOULEVARD AT HANSON BOULEVARD AND RIGHT LANE EB ROBINSON DRIVE TO MARTIN STREET.
- CLOSE RIGHT LANE WB ROBINSON DRIVE AT HANSON BOULEVARD AND RIGHT LANE WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE RIGHT LANE NB/SB HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO 115TH AVENUE NW.
- CLOSE SHOULDER FOR WB NORTHDALE BOULEVARD AT SURCHARGE SITE.

STAGE 1 PHASE 2 CONSTRUCTION

- CONSTRUCT BRIDGE NO. 02567 SUBSTRUCTURE.
- REMOVE EXISTING RAMP C AND D AND RIGHT SHOULDER FOR TH 10/47 EB.
- REMOVE HANSON BOULEVARD, RAMP C/D TO NORTHDALE BOULEVARD/ROBINSON DRIVE.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP C AND D.
- CONSTRUCT RAMP C, D AND RIGHT SHOULDER TH 10/47 EB.
- CONSTRUCT HANSON BOULEVARD, RAMP C/D, TO NORTHDALE BOULEVARD/ROBINSON DRIVE.
- CONSTRUCT RIGHT LANES FOR SB AND NB HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT RIGHT LANES FOR EB AND WB NORTHDALE BOULEVARD AND ROBINSON DRIVE.
- CONSTRUCT SURCHARGE FOR WB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND C AND D OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES. POND C LINER TO BE CONSTRUCTED AFTER UPSTREAM AREAS ARE STABILIZED WITH PERMANENT VEGETATION. RESTORE AREA DIRECTLY ADJACENT TO POND WITH RAPID STABLIZATION MEASURES.
- PLACE TEMPORARY PIPE THROUGH SURCHARGE TO ENSURE DRAINAGE. STABILIZE SURCHARGE WITH RAPID STABILIZATION MEASURES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG02
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

T.H. 10/47

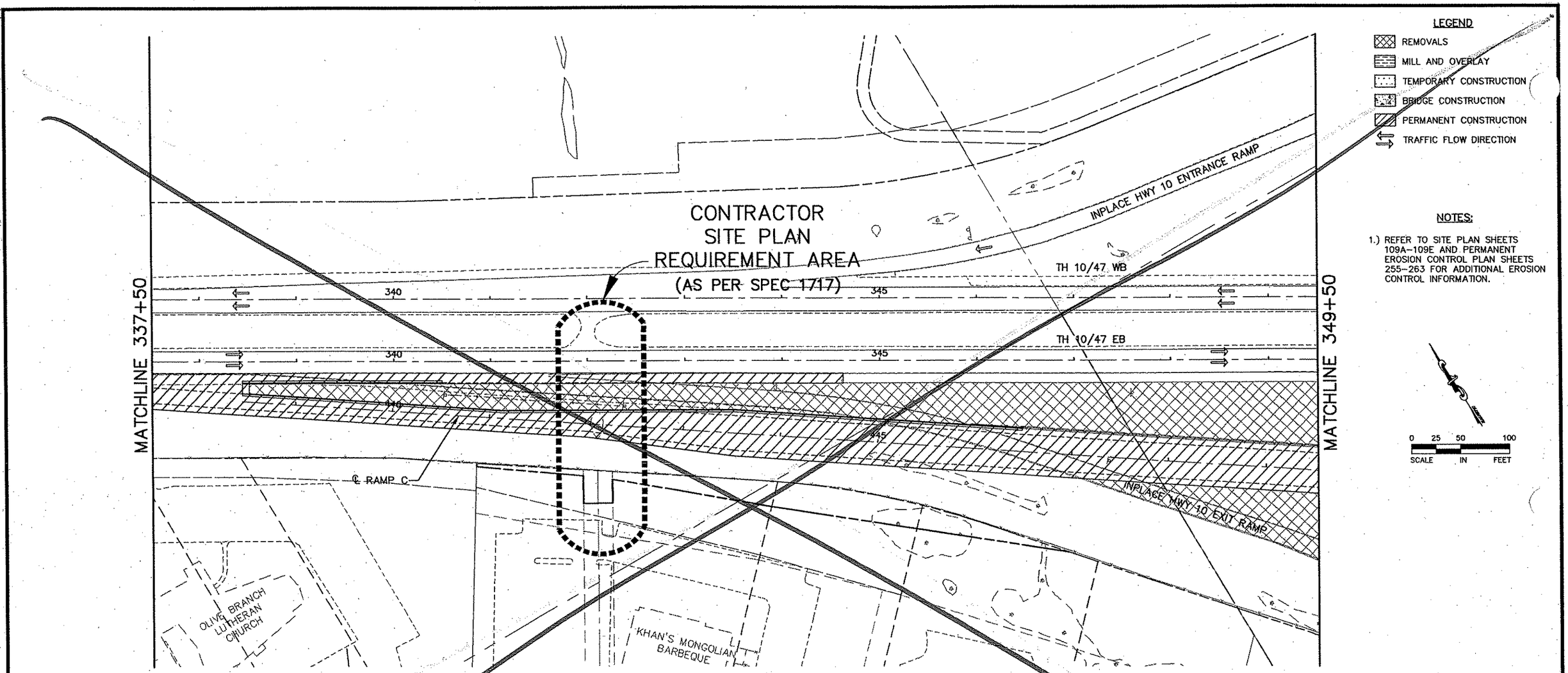
STAGE 1 PHASE 2

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 78 / 681

PLOT DATE: Jan 12:19pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1\ 2007.dwg

Xref'd Drawings
rl-keel-sig
:D-ESM
:NOTES1-2
:LEGEND
:TG1P2
:TG1P2-PCO
:TG1P2_MASK
:-S1P2
-striping
ISN-E
ISN-A
F-DW
ISN-ESU
:x34bdr



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 2 TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE RIGHT LANE EB NORTHDALE BOULEVARD AT HANSON BOULEVARD AND RIGHT LANE EB ROBINSON DRIVE TO MARTIN STREET.
- CLOSE RIGHT LANE WB ROBINSON DRIVE AT HANSON BOULEVARD AND RIGHT LANE WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE RIGHT LANE NB/SB HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO 115TH AVENUE NW.
- CLOSE SHOULDER FOR WB NORTHDALE BOULEVARD AT SURCHARGE SITE.

STAGE 1 PHASE 2 CONSTRUCTION

- CONSTRUCT BRIDGE NO. 02567 SUBSTRUCTURE.
- REMOVE EXISTING RAMP C AND D AND RIGHT SHOULDER FOR TH 10/47 EB.
- REMOVE HANSON BOULEVARD, RAMP C/D TO NORTHDALE BOULEVARD/ROBINSON DRIVE.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP C AND D.
- CONSTRUCT RAMP C, D AND RIGHT SHOULDER TH 10/47 EB.
- CONSTRUCT HANSON BOULEVARD, RAMP C/D, TO NORTHDALE BOULEVARD/ROBINSON DRIVE.
- CONSTRUCT RIGHT LANES FOR SB AND NB HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT RIGHT LANES FOR EB AND WB NORTHDALE BOULEVARD AND ROBINSON DRIVE.
- CONSTRUCT SURCHARGE FOR WB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND C AND D OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES. POND C LINER TO BE CONSTRUCTED AFTER UPSTREAM AREAS ARE STABILIZED WITH PERMANENT VEGETATION. RESTORE AREA DIRECTLY ADJACENT TO POND WITH RAPID STABLIZATION MEASURES.
- PLACE TEMPORARY PIPE THROUGH SURCHARGE TO ENSURE DRAINAGE. STABILIZE SURCHARGE WITH RAPID STABILIZATION MEASURES.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG03
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

T.H. 10/47

STAGE 1 PHASE 2

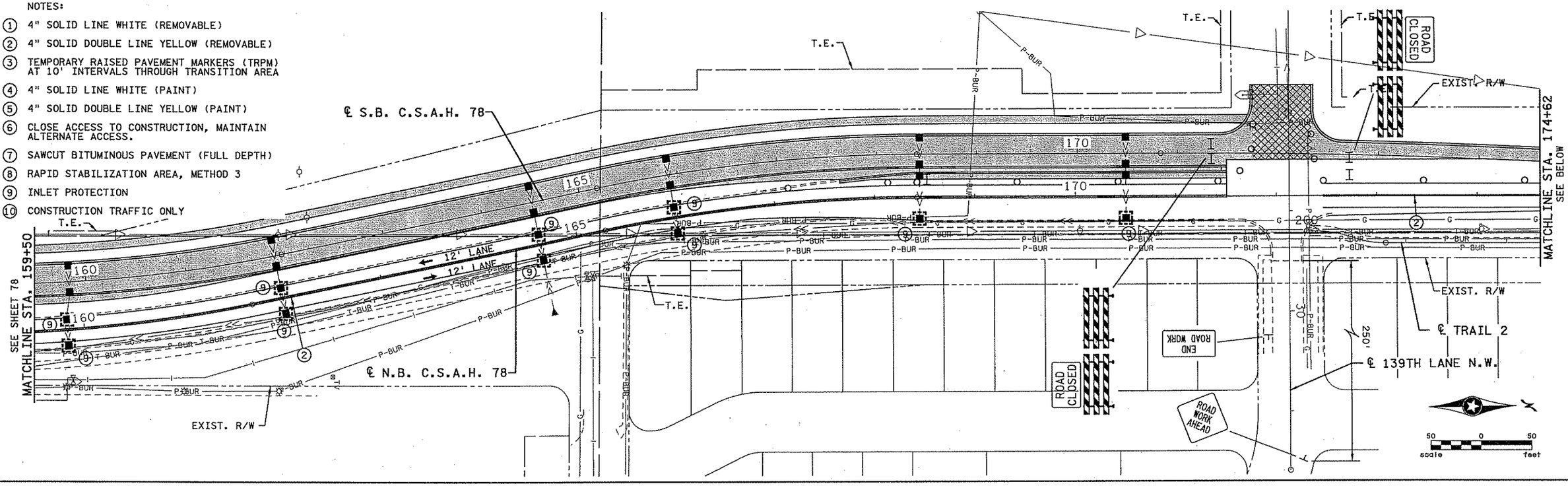
CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

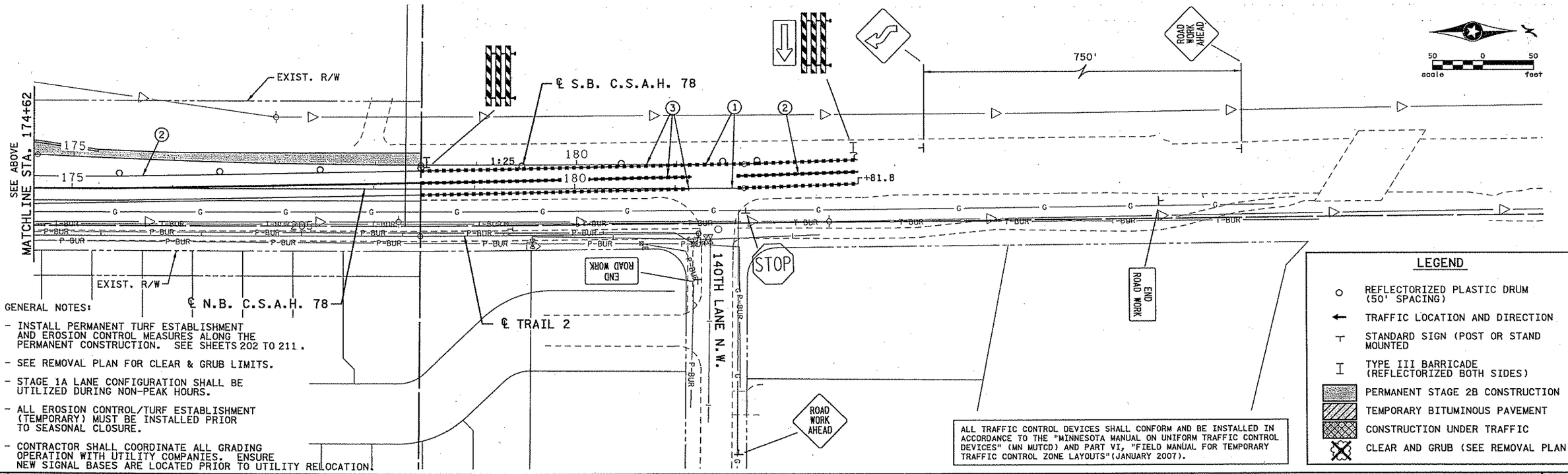
SHEET NO. 79 / 681

PLOT DATE: Jan 17 12:19pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\C03.dwg

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY





GENERAL NOTES:

- INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.
- SEE REMOVAL PLAN FOR CLEAR & GRUB LIMITS.
- STAGE 1A LANE CONFIGURATION SHALL BE UTILIZED DURING NON-PEAK HOURS.
- ALL EROSION CONTROL/TURF ESTABLISHMENT (TEMPORARY) MUST BE INSTALLED PRIOR TO SEASONAL CLOSURE.
- CONTRACTOR SHALL COORDINATE ALL GRADING OPERATION WITH UTILITY COMPANIES. ENSURE NEW SIGNAL BASES ARE LOCATED PRIOR TO UTILITY RELOCATION.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2B CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
...\5404\hl-mu\Plan\5404.HOH					

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: CHRIS M. TRBOYEVICH
Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2B

SHEET 79 OF 400

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6/15/2007
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ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

END ROAD WORK

EX. TRAIL EASE.

℄ TRAIL 1

℄ E.B. C.S.A.H. 116

℄ W.B. C.S.A.H. 116

25' BARREL SPACING THROUGH TRANSITION

PROP. TRAIL EASE.

EXIST. R/W

1000' R

T.E.

+43.6

+45.2

12' LANE

11' LANE

MATCHLINE STA. 20+00
SEE SHEET 78

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY
11. 4" SOLID LINE YELLOW (PAINT)
12. RIGHT LANE CLOSURE, WORK SPACE BEYOND INTERSECTION MULTI-LANE DIVIDED ROAD WITH 750' SPACING. INCLUDES: 1 - R3-X1, 2 - W1-6L, 2 - TYPE III BARRICADES, 1 - W4-2R, 1 - W20-X3L, 2 - W21-X5R, 2 - W20-1

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2B CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

ROAD WORK AHEAD

CRANE ST.

STOP

END ROAD WORK

℄ W.B. C.S.A.H. 116

℄ E.B. C.S.A.H. 116

MATCHLINE STA. 28+00
SEE SHEET 61

MATCHLINE STA. 42+00
SEE SHEET 79B

PROP. R/W

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
					...\5404\h1-mu\Plan\5404.h01

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
C.S.A.H. 116 STAGE 2B

SHEET 79A OF 400

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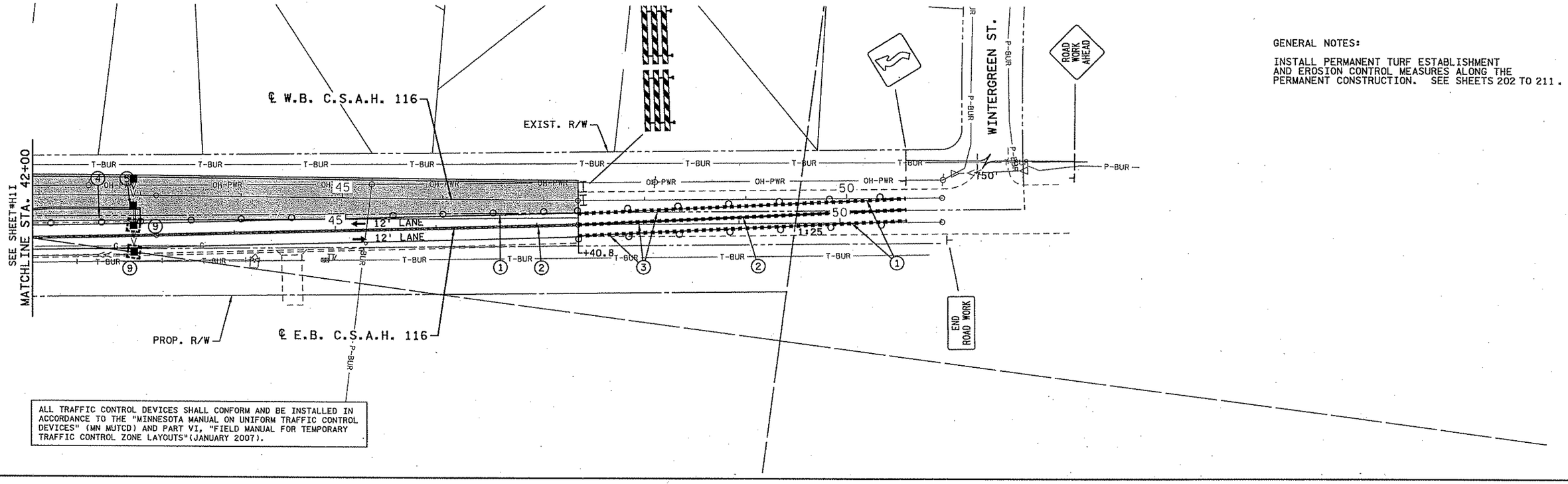

GENERAL NOTES:

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ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
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7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

LEGEND

- REFLECTORIZED PLASTIC DRUM (50' SPACING)
- TRAFFIC LOCATION AND DIRECTION
- STANDARD SIGN (POST OR STAND MOUNTED)
- TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2B CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC
- CLEAR AND GRUB (SEE REMOVAL PLAN)

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.h0j

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

C.S.A.H. 116 STAGE 2B

SHEET 79B OF 400

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LEGEND

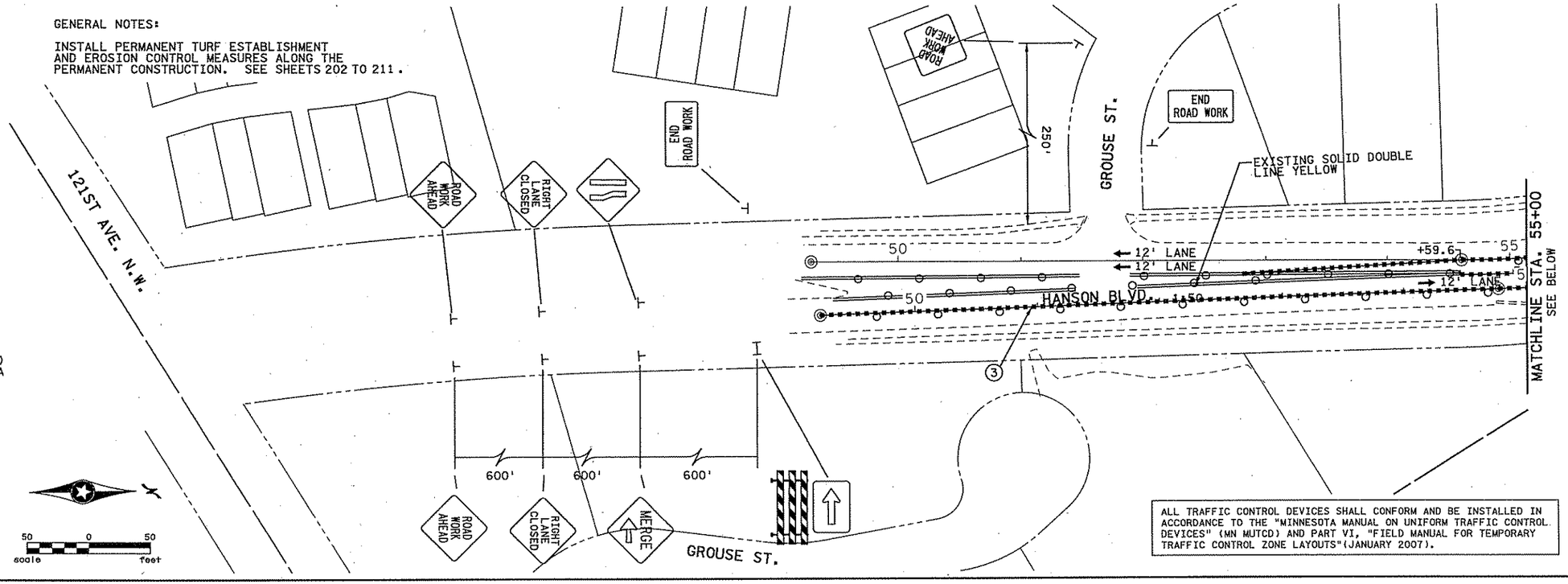
- ○ REFLECTORIZED PLASTIC DRUM (50' SPACING)
- ← TRAFFIC LOCATION AND DIRECTION
- ⊤ STANDARD SIGN (POST OR STAND MOUNTED
- I TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2C CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211.



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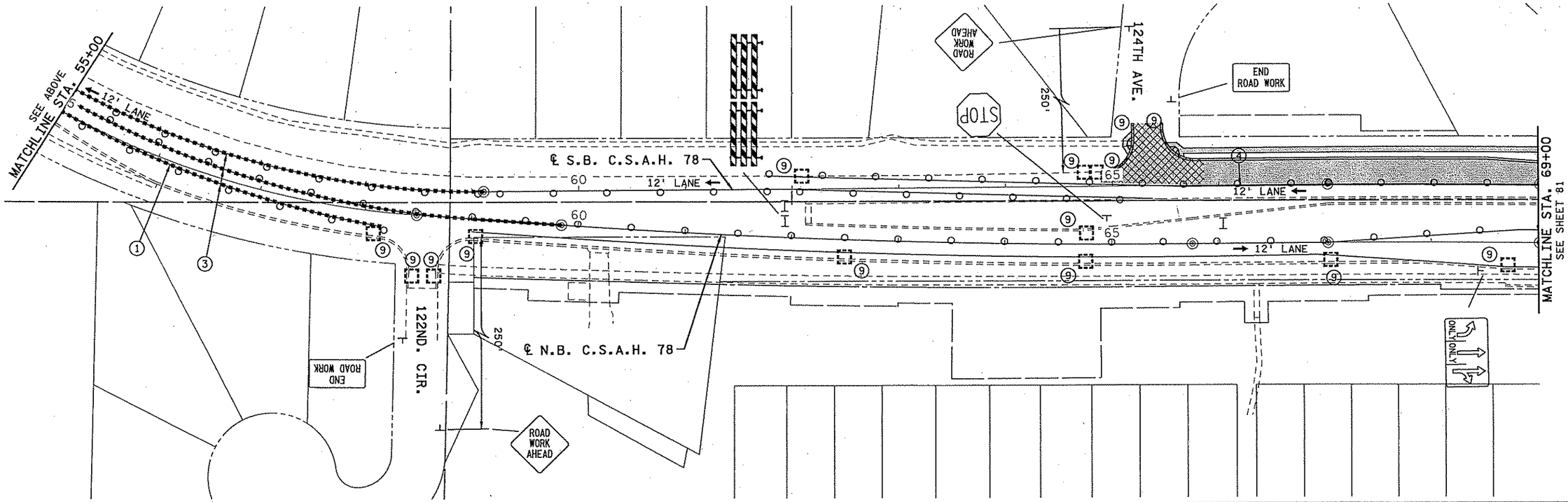

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.h3a

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2C

SHEET 80 OF 400

10:50:05 AM
6/15/2007
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XREFs Drawings
rl-keel_dig
D-ESM
LEGEND
NOTES1-2
-STP2
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TC CO
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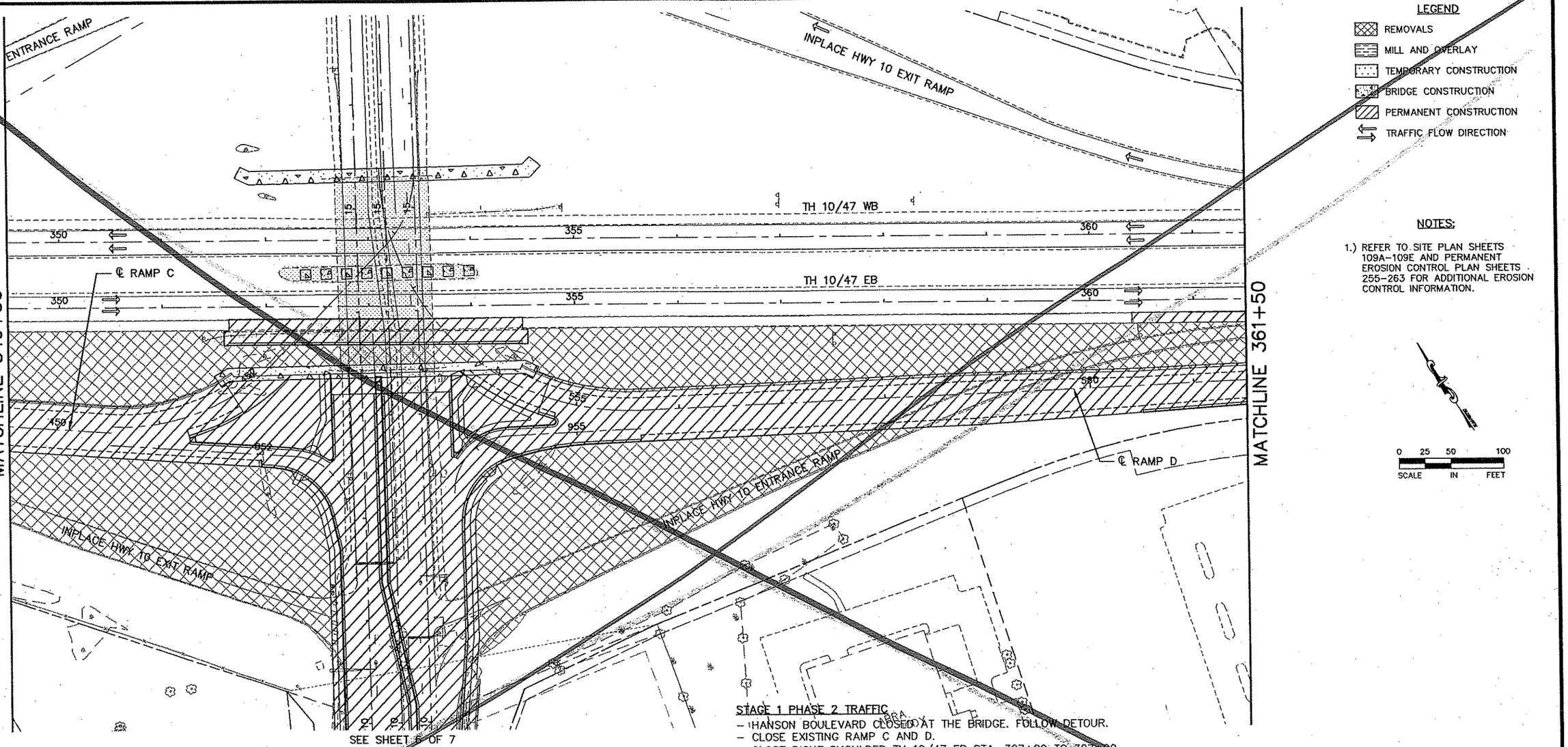

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 2 TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
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- CLOSE RIGHT LANE WB ROBINSON DRIVE AT HANSON BOULEVARD AND RIGHT LANE WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE RIGHT LANE NB/SB HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO 115TH AVENUE NW.
- CLOSE SHOULDER FOR WB NORTHDALE BOULEVARD AT SURCHARGE SITE.

STAGE 1 PHASE 2 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND C AND D OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES. POND C LINER TO BE CONSTRUCTED AFTER UPSTREAM AREAS ARE STABILIZED WITH PERMANENT VEGETATION. RESTORE AREA DIRECTLY ADJACENT TO POND WITH RAPID STABLIZATION MEASURES.
- PLACE TEMPORARY PIPE THROUGH SURCHARGE TO ENSURE DRAINAGE. STABILIZE SURCHARGE WITH RAPID STABILIZATION MEASURES.

STAGE 1 PHASE 2 CONSTRUCTION

- CONSTRUCT BRIDGE NO. 02567 SUBSTRUCTURE.
- REMOVE EXISTING RAMP C AND D AND RIGHT SHOULDER FOR TH 10/47 EB.
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- CONSTRUCT SURCHARGE FOR WB NORTHDALE BOULEVARD.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG04
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

T.H. 10/47

STAGE 1 PHASE 2

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 80 / 681

PLOT DATE: Jan 7 12:20pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04

Xref'd Drawings
rl-keel-sig
SD-ESM
NOTES1-2
LEGEND
TG1P2
TG1P2-P60
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SN-E
SN-A
F-DWG
SN-ESU
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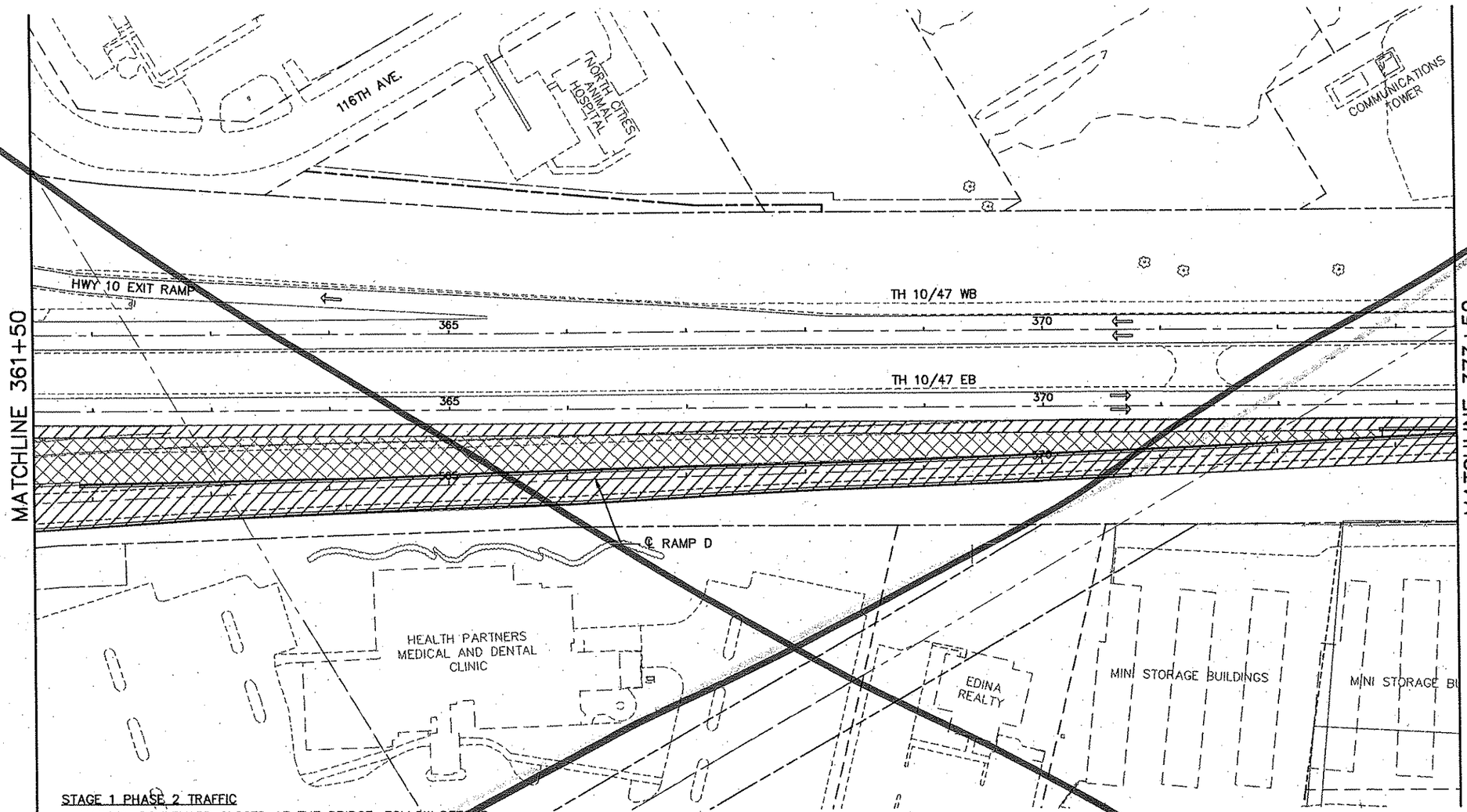

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 2 TRAFFIC

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- CLOSE EXISTING RAMP C AND D.
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- CLOSE RIGHT LANE NB/SB HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO 115TH AVENUE NW.
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STAGE 1 PHASE 2 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND C AND D OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES. POND C LINER TO BE CONSTRUCTED AFTER UPSTREAM AREAS ARE STABILIZED WITH PERMANENT VEGETATION. RESTORE AREA DIRECTLY ADJACENT TO POND WITH RAPID STABILIZATION MEASURES.
- PLACE TEMPORARY PIPE THROUGH SURCHARGE TO ENSURE DRAINAGE. STABILIZE SURCHARGE WITH RAPID STABILIZATION MEASURES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG05
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

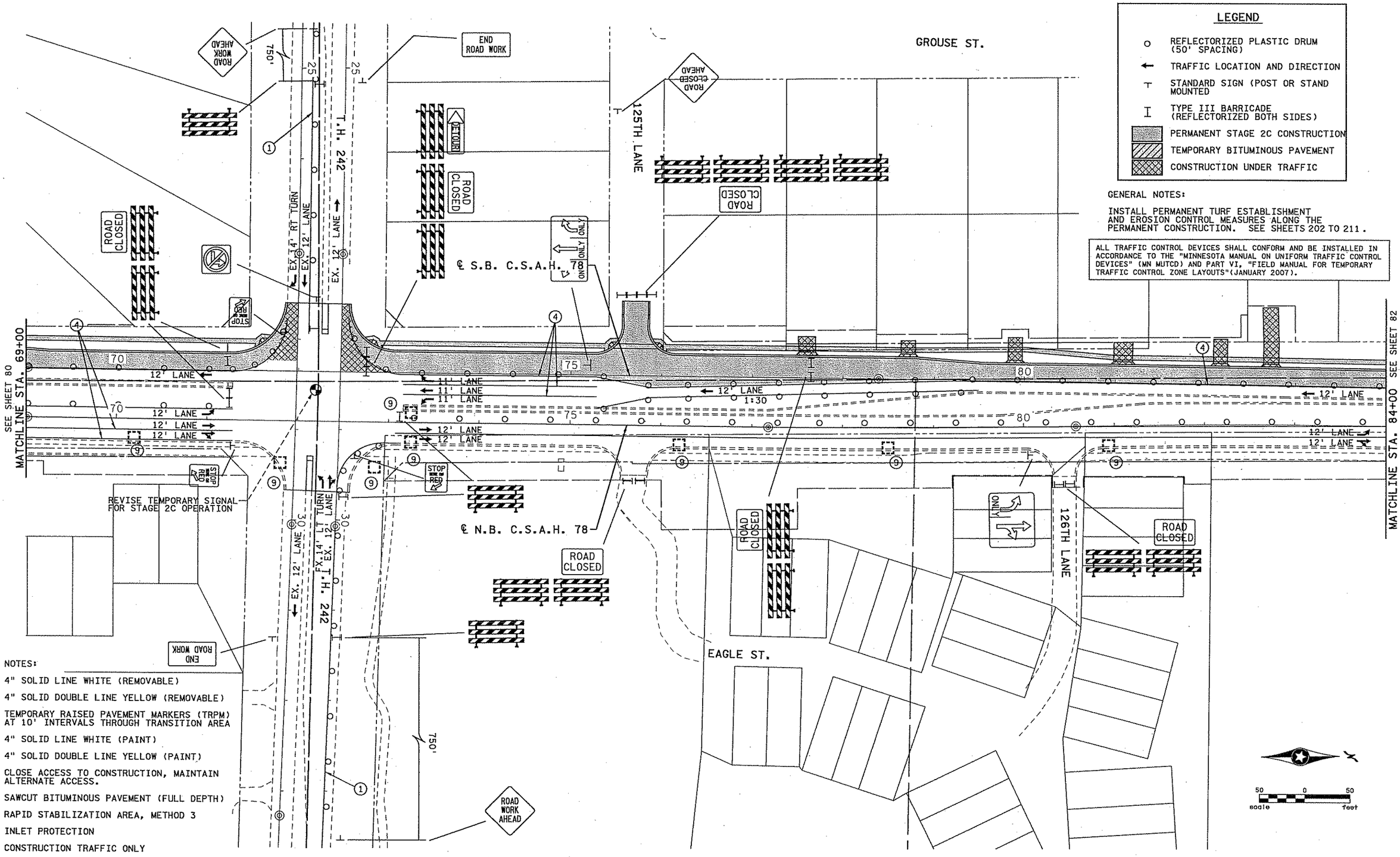
T.H. 10/47

STAGE 1 PHASE 2

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 81 / 681

PLOT DATE: Jan (...7 12:20pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1\0(...)05.dwg



NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
4. 4" SOLID LINE WHITE (PAINT)
5. 4" SOLID DOUBLE LINE YELLOW (PAINT)
6. CLOSE ACCESS TO CONSTRUCTION, MAINTAIN ALTERNATE ACCESS.
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\h1-mu\plan\5404.h3b

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License 41635

STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 78
STAGE 2C

SHEET 81 OF 400

10:50:06 AM
6/15/2007
N:\Projects\5404\h1-mu\plan\5404.h3b

NOTES:

1. 4" SOLID LINE WHITE (REMOVABLE)
2. 4" SOLID DOUBLE LINE YELLOW (REMOVABLE)
3. TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREA
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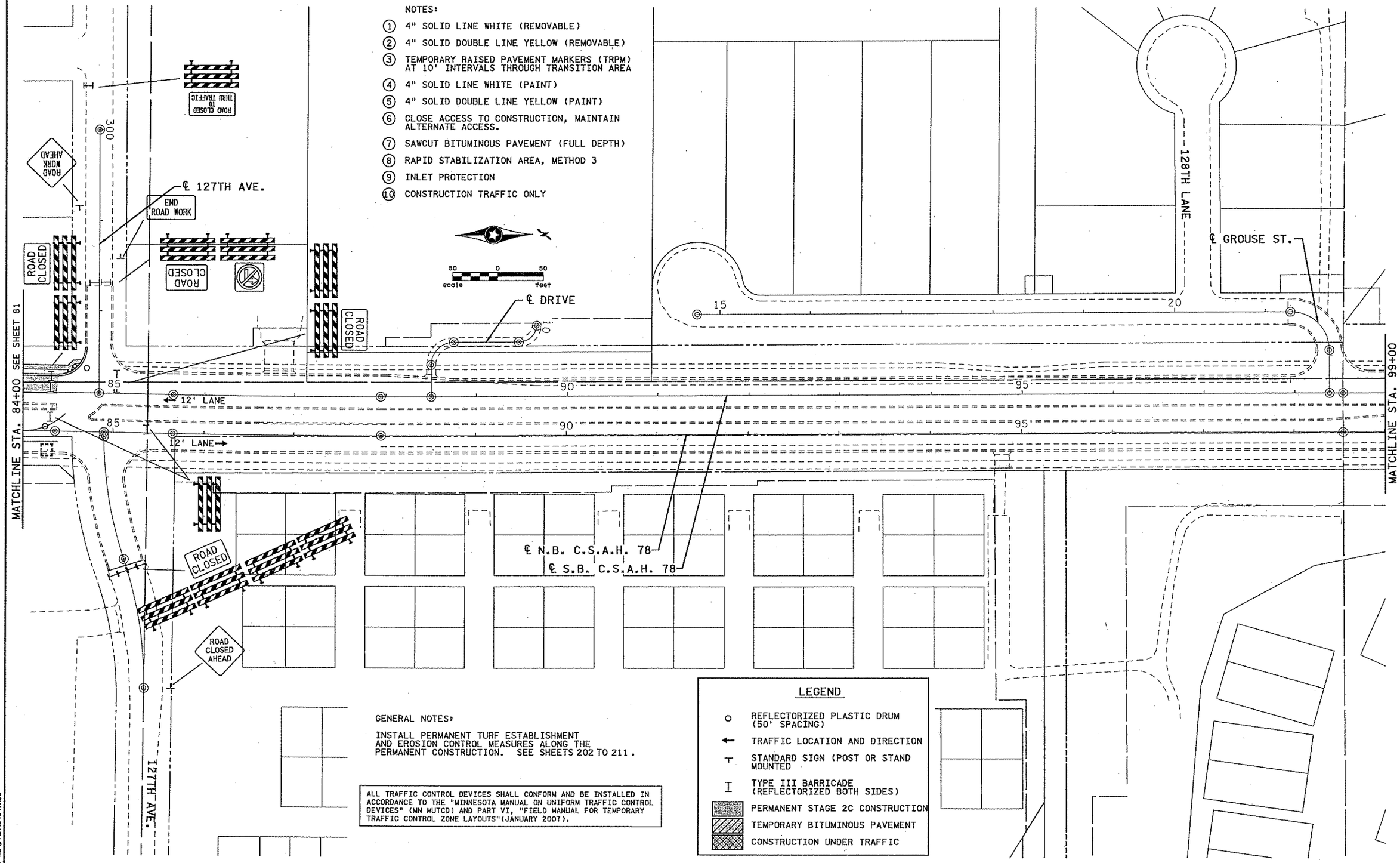
7. SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
8. RAPID STABILIZATION AREA, METHOD 3
9. INLET PROTECTION
10. CONSTRUCTION TRAFFIC ONLY



GENERAL NOTES:

INSTALL PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION. SEE SHEETS 202 TO 211 .

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS"(JANUARY 2007).

LEGEND

- o REFLECTORIZED PLASTIC DRUM (50' SPACING)
- ← TRAFFIC LOCATION AND DIRECTION
- ⊤ STANDARD SIGN (POST OR STAND MOUNTED)
- I TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
- PERMANENT STAGE 2C CONSTRUCTION
- TEMPORARY BITUMINOUS PAVEMENT
- CONSTRUCTION UNDER TRAFFIC

NO	DATE	BY	CKD	APPR	REVISION
2	6-15-07	BJN	BJN	CMT	ADDENDUM #1: STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS
1	2-21-07	CJH	CMT	CMT	STAGING PLAN REVISIONS PER ANOKA COUNTY COMMENTS

...\5404\hl-mu\plan\5404.h3o

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/15/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 78

STAGE 2C

SHEET 82 OF 400

10/5/2007 AM
6/15/2007
h:\projects\5404\hl-mu\plan\5404.h3o

Xref'd Drawings
H-keel.dgn
ID-ESM
NOTES1-2
LEGEND
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-striping
CO
ASK
ISN
ISN-A
F-DWG
ISN-ESU
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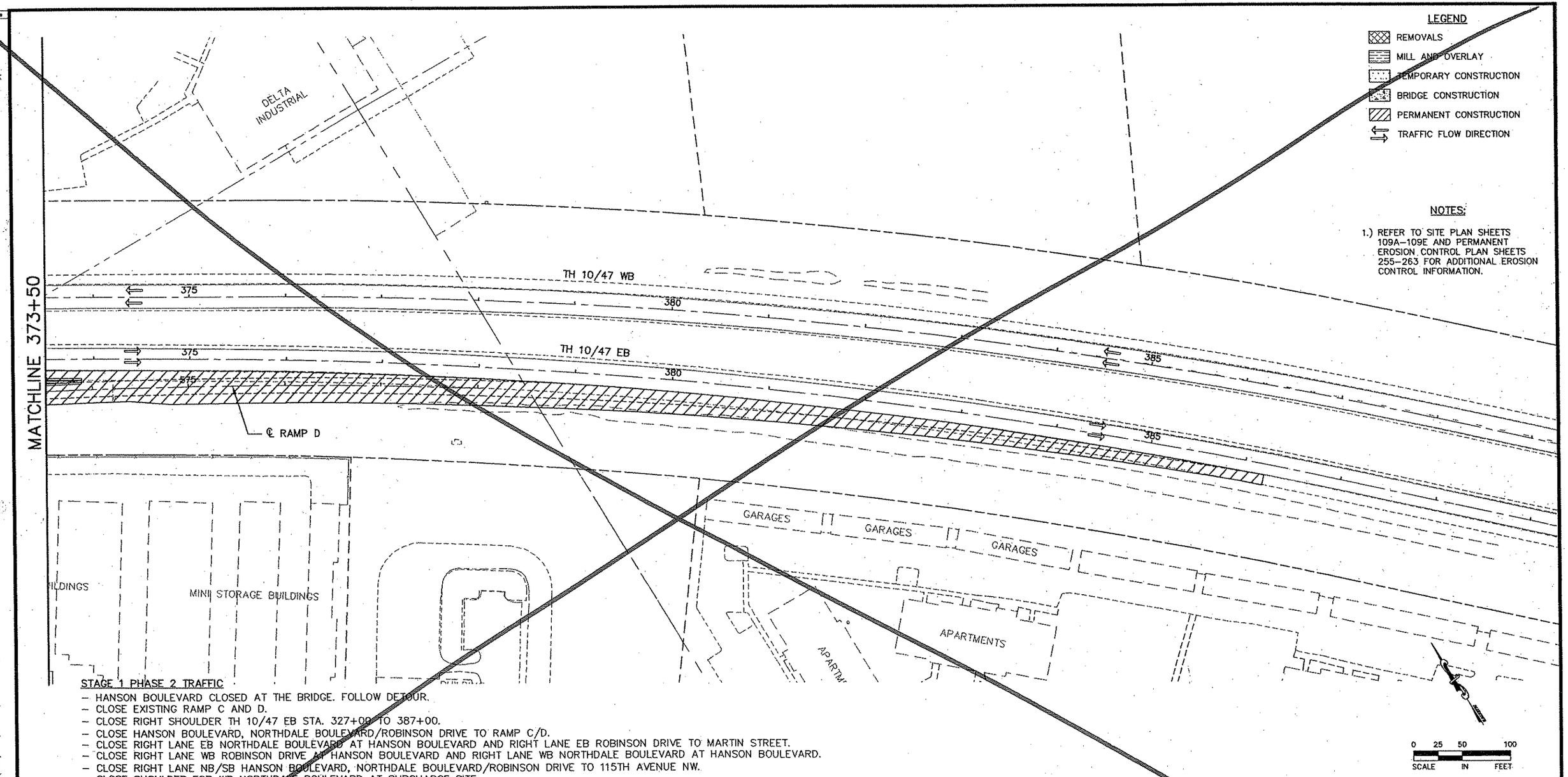

STAGE 1 PHASE 2 TRAFFIC
- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE RIGHT LANE EB NORTHDALE BOULEVARD AT HANSON BOULEVARD AND RIGHT LANE EB ROBINSON DRIVE TO MARTIN STREET.
- CLOSE RIGHT LANE WB ROBINSON DRIVE AT HANSON BOULEVARD AND RIGHT LANE WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE RIGHT LANE NB/SB HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO 115TH AVENUE NW.
- CLOSE SHOULDER FOR WB NORTHDALE BOULEVARD AT SURCHARGE SITE.

STAGE 1 PHASE 2 CONSTRUCTION
- CONSTRUCT BRIDGE NO. 92567 SUBSTRUCTURE.
- REMOVE EXISTING RAMP C AND D AND RIGHT SHOULDER FOR TH 10/47 EB.
- REMOVE HANSON BOULEVARD, RAMP C/D TO NORTHDALE BOULEVARD/ROBINSON DRIVE.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP C AND D.
- CONSTRUCT RAMP C, D AND RIGHT SHOULDER TH 10/47 EB.
- CONSTRUCT HANSON BOULEVARD, RAMP C/D, TO NORTHDALE BOULEVARD/ROBINSON DRIVE.
- CONSTRUCT RIGHT LANES FOR SB AND NB HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT RIGHT LANES FOR EB AND WB NORTHDALE BOULEVARD AND ROBINSON DRIVE.
- CONSTRUCT SURCHARGE FOR WB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2 EROSION CONTROL
- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND C AND D OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES. POND C LINER TO BE CONSTRUCTED AFTER UPSTREAM AREAS ARE STABILIZED WITH PERMANENT VEGETATION. RESTORE AREA DIRECTLY ADJACENT TO POND WITH RAPID STABILIZATION MEASURES.
- PLACE TEMPORARY PIPE THROUGH SURCHARGE TO ENSURE DRAINAGE. STABILIZE SURCHARGE WITH RAPID STABILIZATION MEASURES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG06
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION STAGING PLAN
T.H. 10/47
STAGE 1 PHASE 2

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 82 / 681

PLOT DATE: Jan 07 12:20pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\C 06.dwg

Xref's Drawings
ri-keel-sig
D-ESM
NOTES1-2
LEGEND
TG1P2-PCO
TG1P2_MASK
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-S1P2
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F-DW
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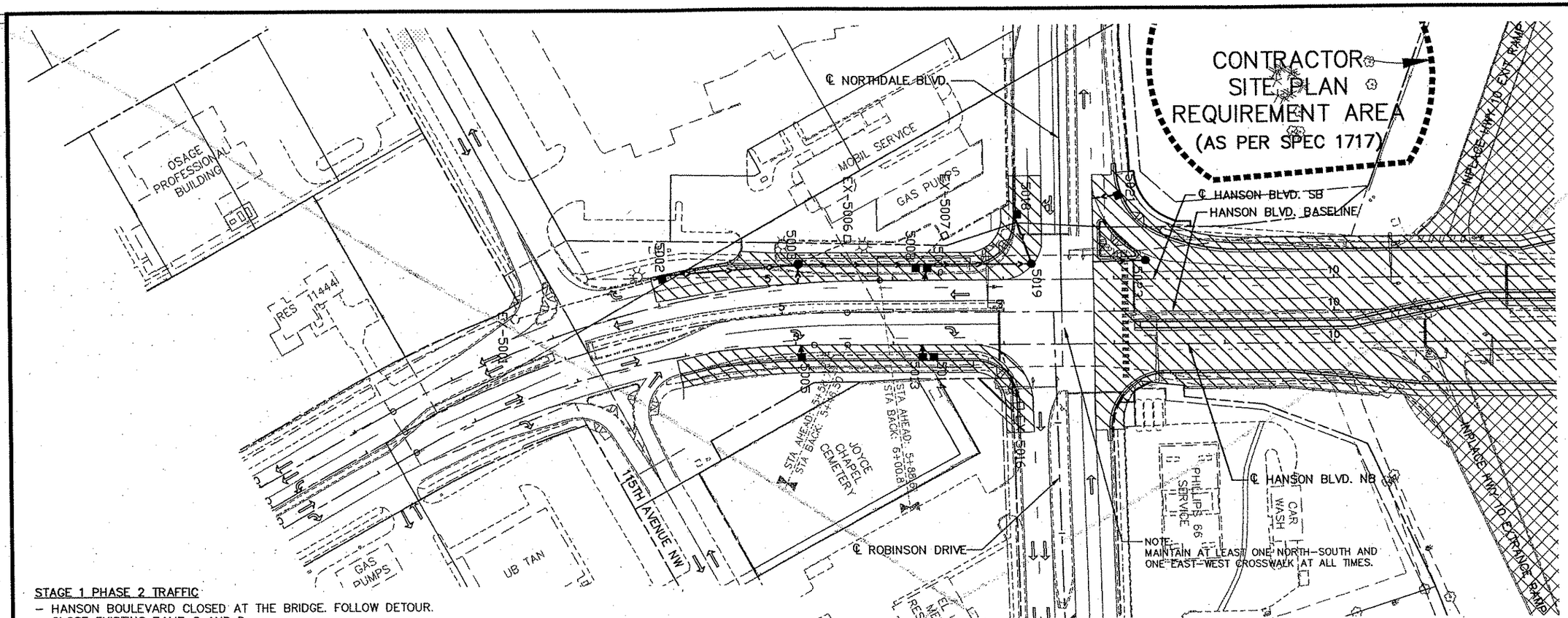

STAGE 1 PHASE 2 TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE RIGHT LANE EB NORTHDALE BOULEVARD AT HANSON BOULEVARD AND RIGHT LANE EB ROBINSON DRIVE TO MARTIN STREET.
- CLOSE RIGHT LANE WB ROBINSON DRIVE AT HANSON BOULEVARD AND RIGHT LANE WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE RIGHT LANE NB/SB HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO 115TH AVENUE NW.
- CLOSE SHOULDER FOR WB NORTHDALE BOULEVARD AT SURCHARGE SITE.

STAGE 1 PHASE 2 CONSTRUCTION

- CONSTRUCT BRIDGE NO. 02567 SUBSTRUCTURE.
- REMOVE EXISTING RAMP C AND D AND RIGHT SHOULDER FOR TH 10/47 EB.
- REMOVE HANSON BOULEVARD, RAMP C/D TO NORTHDALE BOULEVARD/ROBINSON DRIVE.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP C AND D.
- CONSTRUCT RAMP C, D AND RIGHT SHOULDER TH 10/47 EB.
- CONSTRUCT HANSON BOULEVARD, RAMP C/D, TO NORTHDALE BOULEVARD/ROBINSON DRIVE.
- CONSTRUCT RIGHT LANES FOR SB AND NB HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT RIGHT LANES FOR EB AND WB NORTHDALE BOULEVARD AND ROBINSON DRIVE.
- CONSTRUCT SURCHARGE FOR WB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND C AND D OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES. POND C LINER TO BE CONSTRUCTED AFTER UPSTREAM AREAS ARE STABILIZED WITH PERMANENT VEGETATION. RESTORE AREA DIRECTLY ADJACENT TO POND WITH RAPID STABLIZATION MEASURES.
- PLACE TEMPORARY PIPE THROUGH SURCHARGE TO ENSURE DRAINAGE. STABILIZE SURCHARGE WITH RAPID STABILIZATION MEASURES.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.

NOTE: TEMPORARY DRAINAGE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE WITHIN THE WORK ZONE. TEMPORARY PIPES, STRUCTURES, AND GRADING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL PAYMENT MADE FOR THIS WORK. ALL INLETS SHALL BE PROTECTED WITH PROPER SEDIMENT AND EROSION CONTROL MEASURES.

THE CONTRACTOR SHALL COORDINATE THE REMOVAL OF INPLACE DRAINAGE PIPES AND STRUCTURES WITH THE CONTRACTOR'S STAGING PLAN TO ENSURE POSITIVE DRAINAGE WITHIN THE PROJECT LIMITS. ALL STORM SEWER FACILITIES DESIGNATED ON THE PLAN FOR REMOVAL SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR. ABANDONING STRUCTURES AND PIPES IN PLACE SHALL NOT BE ALLOWED.

THE CONTRACTOR MAY ELECT TO EXTEND PIPE RUNS ACROSS AREAS DESIGNATED FOR CONSTRUCTION UNDER FUTURE STAGES/PHASES. THIS MAY BE ALLOWED UPON APPROVAL OF THE ENGINEER. SUCH CROSSINGS MAY BE REQUIRED TO OCCUR AT NIGHT WITH PROPER TEMPORARY LANE CLOSURES. UPON COMPLETION OF PIPE INSTALLATION, THE BITUMINIOUS DRIVING SURFACE SHALL BE ADEQUATELY RESTORED.

ALL PIPE OUTLETS SHALL BE STABILIZED WITH BLANKET OR STONE.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG07
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

HANSON BOULEVARD

STAGE 1 PHASE 2

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 83 / 681

PLOT DATE: Jan 17 12:20pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0.dwg

Xref'd Drawings
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9-ESM
NOTES1-2
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ISN-
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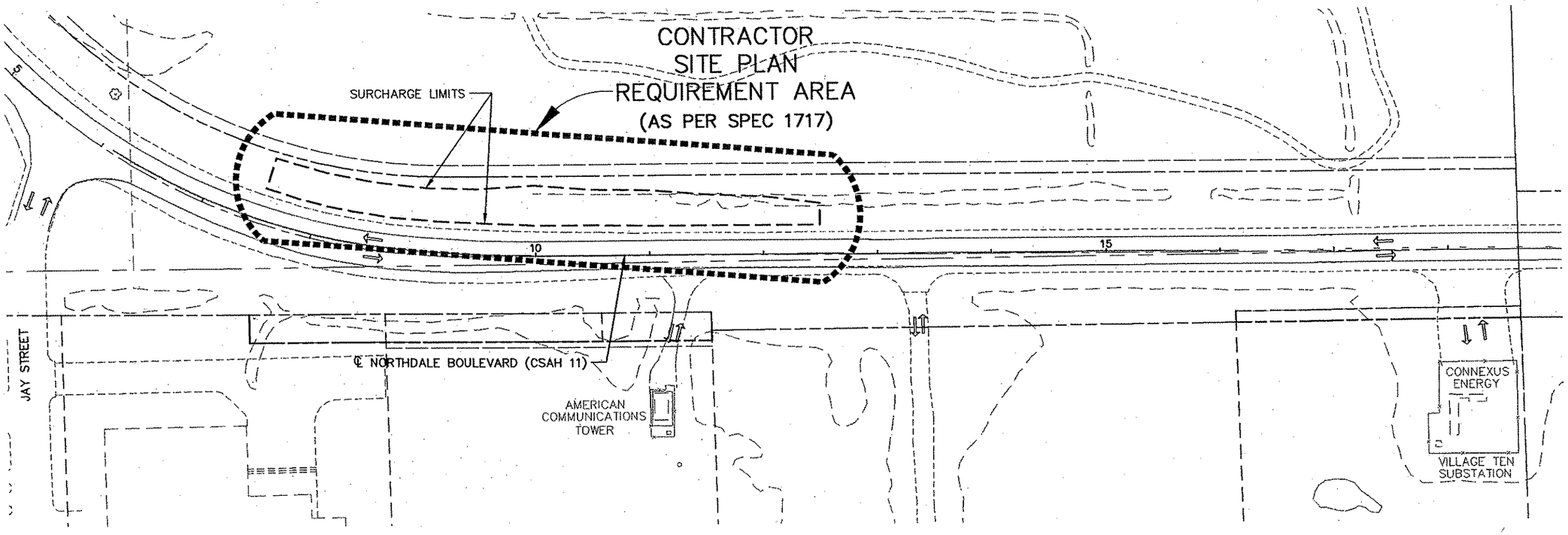

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 2 TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE RIGHT LANE EB NORTHDALE BOULEVARD AT HANSON BOULEVARD AND RIGHT LANE EB ROBINSON DRIVE TO MARTIN STREET.
- CLOSE RIGHT LANE WB ROBINSON DRIVE AT HANSON BOULEVARD AND RIGHT LANE WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE RIGHT LANE NB/SB HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO 115TH AVENUE NW.
- CLOSE SHOULDER FOR WB NORTHDALE BOULEVARD AT SURCHARGE SITE.

STAGE 1 PHASE 2 CONSTRUCTION

- CONSTRUCT BRIDGE NO. 02567 SUBSTRUCTURE.
- REMOVE EXISTING RAMP C AND D AND RIGHT SHOULDER FOR TH 10/47 EB.
- REMOVE HANSON BOULEVARD, RAMP C/D TO NORTHDALE BOULEVARD/ROBINSON DRIVE.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP C AND D.
- CONSTRUCT RAMP C, D AND RIGHT SHOULDER TH 10/47 EB.
- CONSTRUCT HANSON BOULEVARD, RAMP C/D, TO NORTHDALE BOULEVARD/ROBINSON DRIVE.
- CONSTRUCT RIGHT LANES FOR SB AND NB HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT RIGHT LANES FOR EB AND WB NORTHDALE BOULEVARD AND ROBINSON DRIVE.
- CONSTRUCT SURCHARGE FOR WB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND C AND D OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES. POND C LINER TO BE CONSTRUCTED AFTER UPSTREAM AREAS ARE STABILIZED WITH PERMANENT VEGETATION. RESTORE AREA DIRECTLY ADJACENT TO POND WITH RAPID STABLIZATION MEASURES.
- PLACE TEMPORARY PIPE THROUGH SURCHARGE TO ENSURE DRAINAGE. STABILIZE SURCHARGE WITH RAPID STABILIZATION MEASURES.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG07A
DATE: JANUARY 8, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

NORTHDALE BOULEVARD

STAGE 1 PHASE 2

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 84 / 681

PLOT DATE: Jan 07 12:20pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 07A.dwg

Xref'd Drawings
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-S1P2a
TG1P2a_MASK
TG1P2a-PCO
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NOTES1-2a
LEGEND
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ISN-ESU
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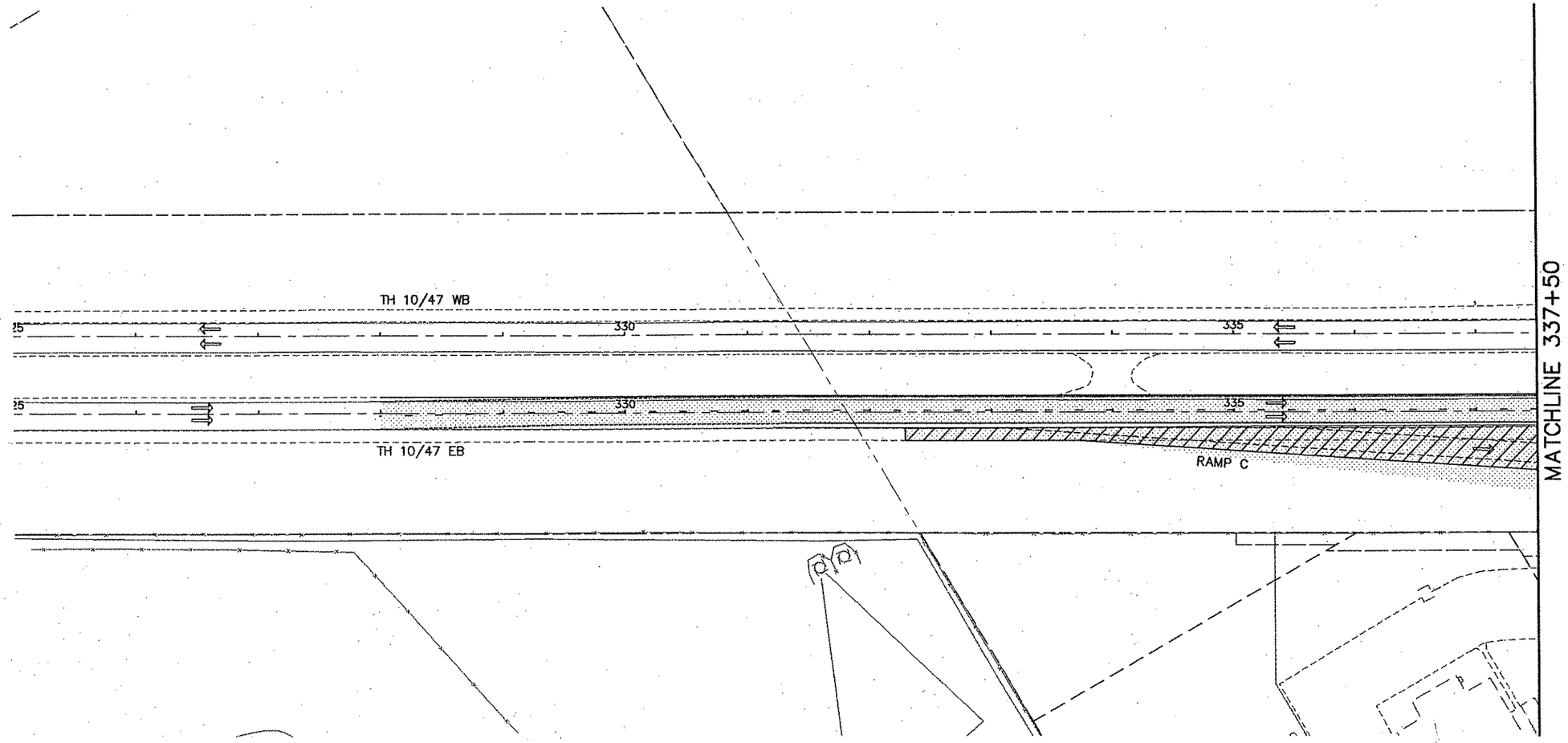

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 2A TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE LEFT LANE EB/WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE LEFT LANE EB/WB ROBINSON DRIVE AT HANSON BOULEVARD.
- CLOSE LEFT LANE SB/NB HANSON BOULEVARD, 115TH AVENUE TO NORTHDALE BOULEVARD/ROBINSON DRIVE.

STAGE 1 PHASE 2A CONSTRUCTION

- SET BRIDGE BEAMS SPAN 1.
- CONSTRUCT MEDIAN NORTHDALE BOULEVARD, ROBINSON DRIVE, AND HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT BITUMINOUS WEAR COURSE RAMP C, D, SHOULDER TH 10/47 EB, AND HANSON BOULEVARD SOUTH OF TH 10/47.
- COMPLETE RESTORATION ALL ROADWAYS SOUTH OF TH 10/47.
- CONSTRUCT TEMPORARY PAVEMENT RIGHT EB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2A EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG08
DATE: JANUARY 8, 2006

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

T.H. 10/47

STAGE 1 PHASE 2A

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 85 / 681

PLOT DATE: Jan 7 12:20pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04-08.dwg

Xref'd Drawings
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-S1P2a
TG1P2a-PCO
TG1P2a_MASK
TG1P2a
-2a
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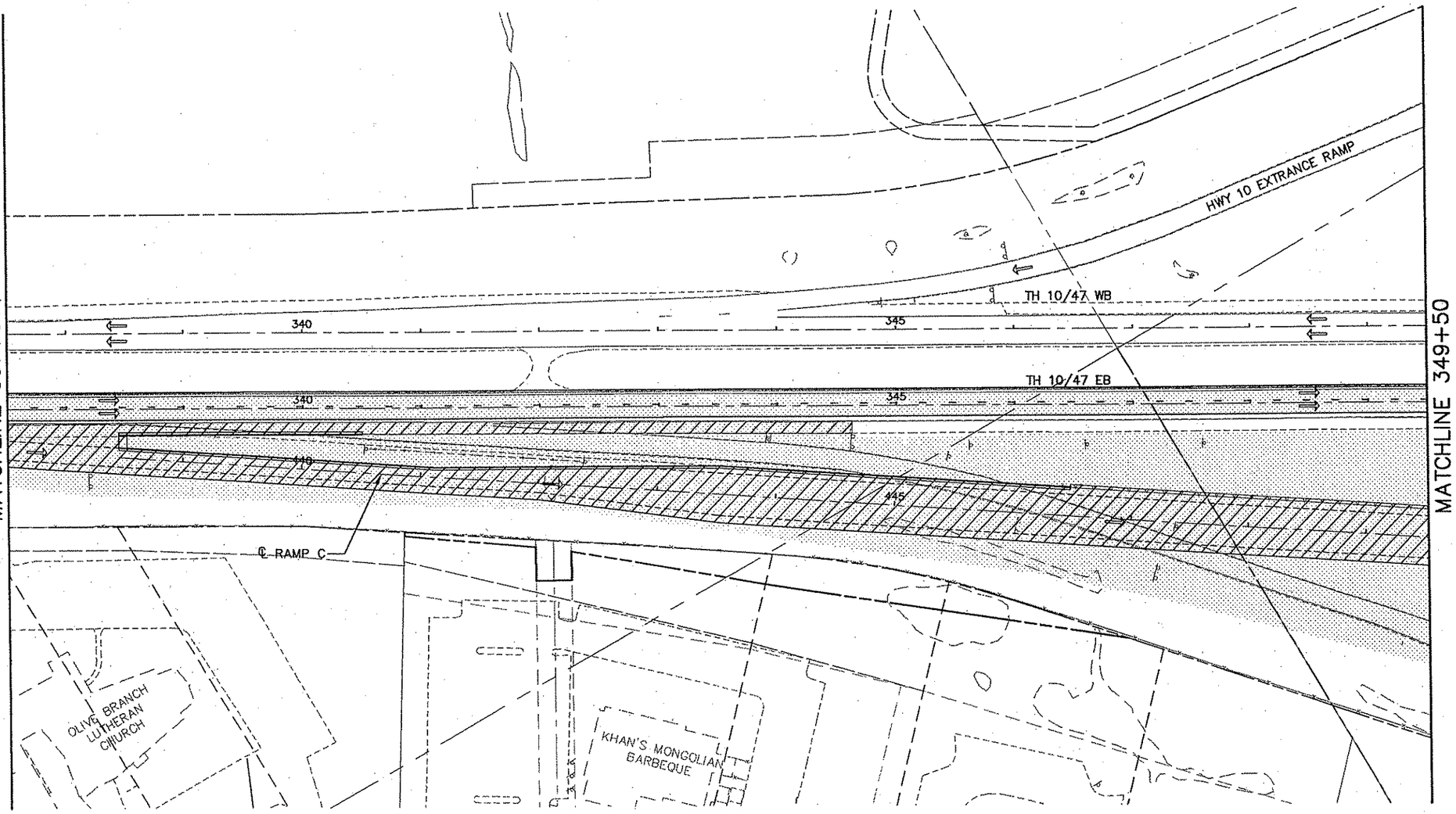
ISN-A
F-DWG
ISN-ESU
x34bdr



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS. 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 2A TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE LEFT LANE EB/WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE LEFT LANE EB/WB ROBINSON DRIVE AT HANSON BOULEVARD.
- CLOSE LEFT LANE SB/NB HANSON BOULEVARD, 115TH AVENUE TO NORTHDALE BOULEVARD/ROBINSON DRIVE.

STAGE 1 PHASE 2A CONSTRUCTION

- SET BRIDGE BEAMS SPAN 1.
- CONSTRUCT MEDIAN NORTHDALE BOULEVARD, ROBINSON DRIVE, AND HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT BITUMINOUS WEAR COURSE RAMP C, D, SHOULDER TH 10/47 EB, AND HANSON BOULEVARD SOUTH OF TH 10/47.
- COMPLETE RESTORATION ALL ROADWAYS SOUTH OF TH 10/47.
- CONSTRUCT TEMPORARY PAVEMENT RIGHT EB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2A EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.
- DRAINAGE SWALES SHALL BE BLANKETED WITH CATEGORY 3 BLANKET.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG09
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

T.H. 10/47

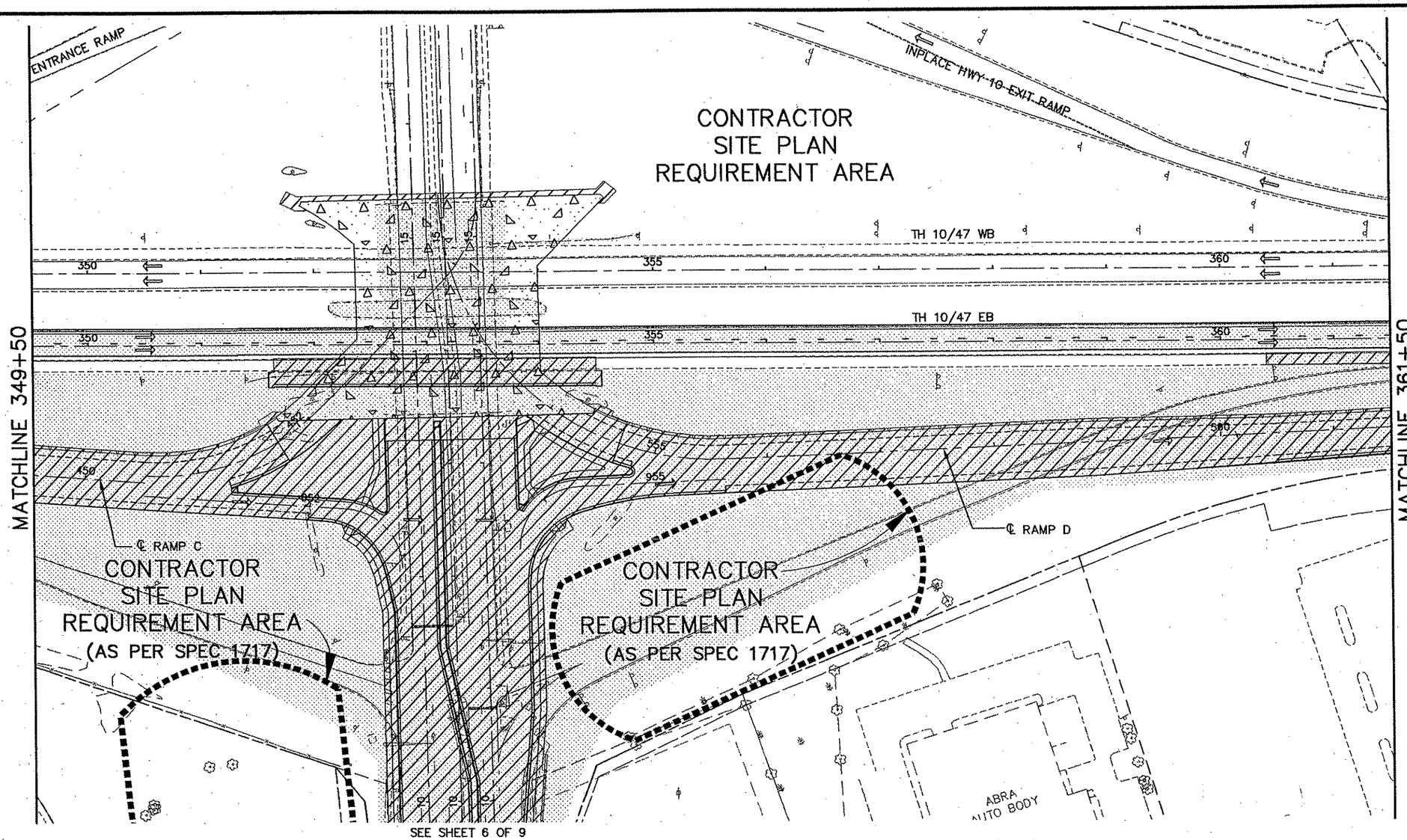
STAGE 1 PHASE 2A

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 86 / 681

PLOT DATE: Jan 07 12:21pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0

Xref'd Drawings
rl-keel-sig
D-ESM
-S1P2a
TG1P2a-PCO
TG1P2a_MASK
TG1P2a
NOTES1-2a
LEGEND
-stripin
ISN-ET
ISN-AI
F-DWG
ISN-ESU
x34bdr



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 2A TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE LEFT LANE EB/WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE LEFT LANE EB/WB ROBINSON DRIVE AT HANSON BOULEVARD.
- CLOSE LEFT LANE SB/NB HANSON BOULEVARD, 115TH AVENUE TO NORTHDALE BOULEVARD/ROBINSON DRIVE.

STAGE 1 PHASE 2A CONSTRUCTION

- SET BRIDGE BEAMS SPAN 1.
- CONSTRUCT MEDIAN NORTHDALE BOULEVARD, ROBINSON DRIVE, AND HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT BITUMINOUS WEAR COURSE RAMP C, D, SHOULDER TH 10/47 EB, AND HANSON BOULEVARD SOUTH OF TH 10/47.
- COMPLETE RESTORATION ALL ROADWAYS SOUTH OF TH 10/47.
- CONSTRUCT TEMPORARY PAVEMENT RIGHT EB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2A EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.
- SURFACE DRAINAGE ADJACENT TO THE BRIDGE CONSTRUCTION SHALL BE DIRECTED THROUGH SEDIMENT TRAPS PRIOR TO ENTERING ANY INLETS, EXISTING OR NEW. DRAINAGE DITCHES/SWALES SHALL BE BLANKETED WITH CATEGORY 3 BLANKET.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG10
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

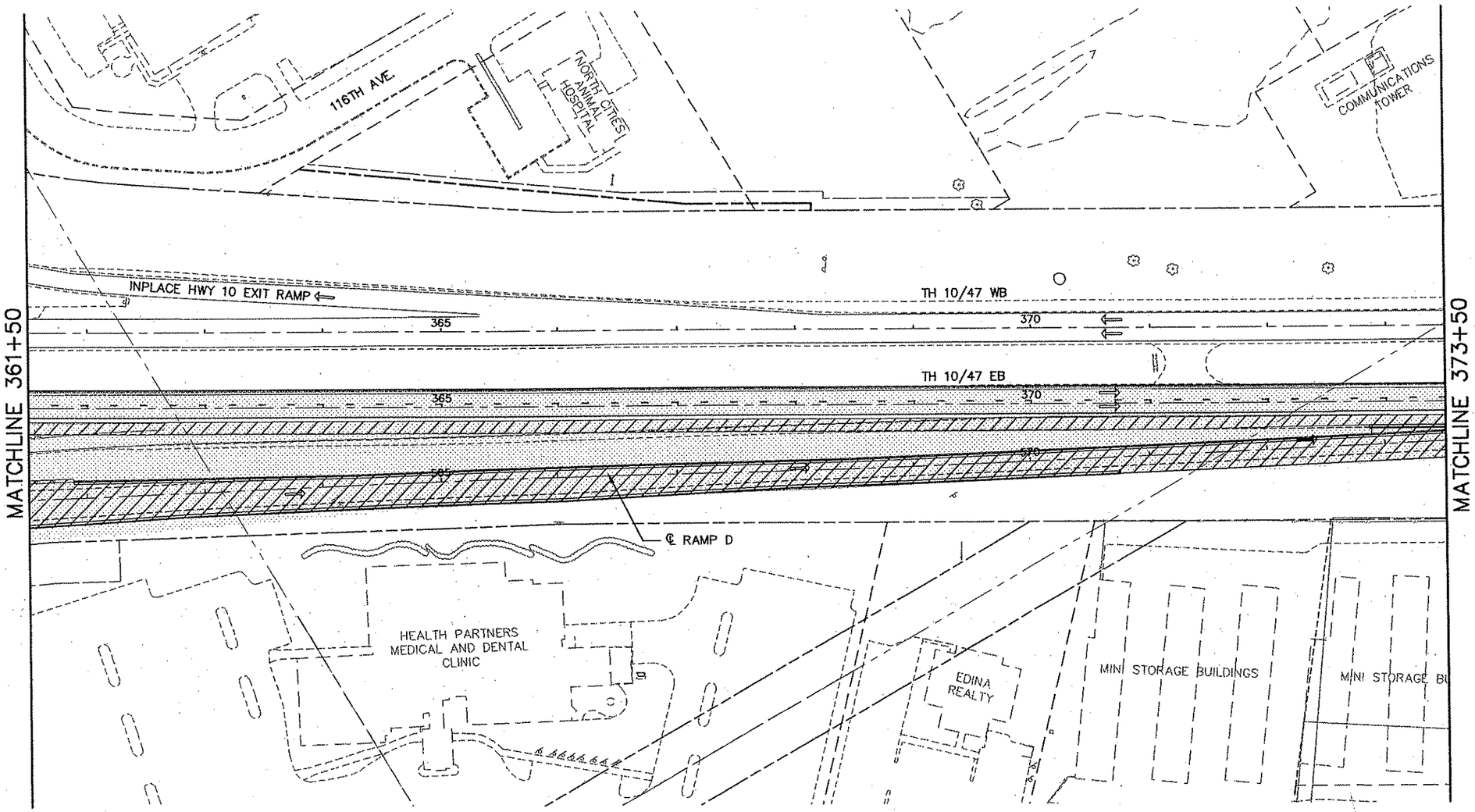
T.H. 10/47

STAGE 1 PHASE 2A

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 87 / 681

PLOT DATE: Jan 17 12:21pm. DISK FILE NAME: (16:1) R:\33889\338890421\PLAN-SHT\TRAF-CONT-STAGE\0



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 2A TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE LEFT LANE EB/WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE LEFT LANE EB/WB ROBINSON DRIVE AT HANSON BOULEVARD.
- CLOSE LEFT LANE SB/NB HANSON BOULEVARD, 115TH AVENUE TO NORTHDALE BOULEVARD/ROBINSON DRIVE.

STAGE 1 PHASE 2A CONSTRUCTION

- SET BRIDGE BEAMS SPAN 1.
- CONSTRUCT MEDIAN NORTHDALE BOULEVARD, ROBINSON DRIVE, AND HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT BITUMINOUS WEAR COURSE RAMP C, D, SHOULDER TH 10/47 EB, AND HANSON BOULEVARD SOUTH OF TH 10/47.
- COMPLETE RESTORATION ALL ROADWAYS SOUTH OF TH 10/47.
- CONSTRUCT TEMPORARY PAVEMENT RIGHT EB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2A EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG11
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

T.H. 10/47

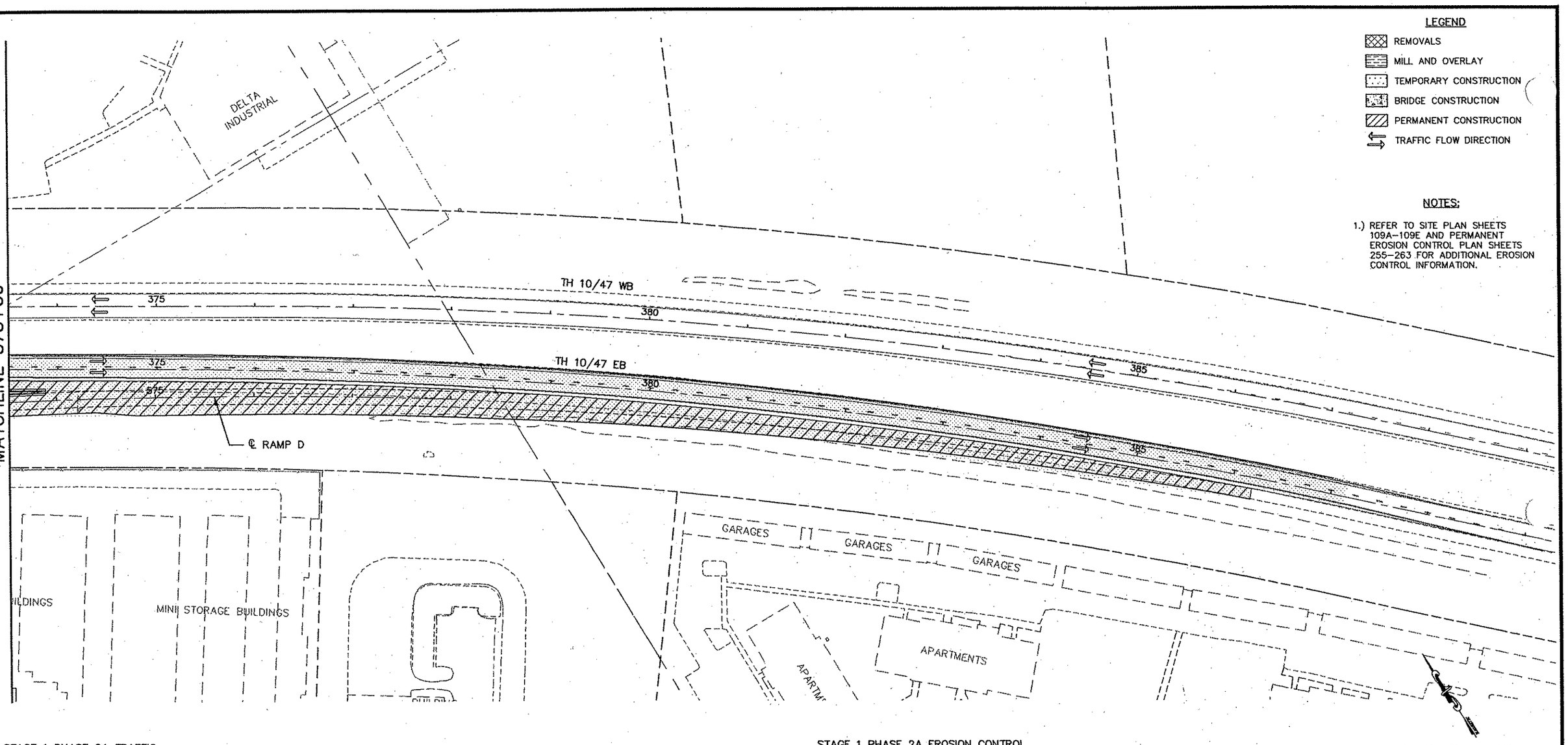
STAGE 1 PHASE 2A

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 88 / 681

Xref'd Drawings
rl-keel-stg
D-ESM
NOTES1-2a
-S1P2a
TG1P2a-PCO
TG1P2a
MASK
ISN-A
F-DWG
ISN-ESU
x34bdr
PLOT DATE: Jan 7 12:21pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\01.dwg

Xref'd Drawings
rl-keel-sig
ID-ESM
:-S1P2a
STG1P2a-PCO
STG1P2a_MASK
STG1P2a
NOTES1-2a
LEGEND
-stripin
NSN-E
NSN-A
F-DWG
NSN-ESU
2x34bdr



STAGE 1 PHASE 2A TRAFFIC
- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE LEFT LANE EB/WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE LEFT LANE EB/WB ROBINSON DRIVE AT HANSON BOULEVARD.
- CLOSE LEFT LANE SB/NB HANSON BOULEVARD, 115TH AVENUE TO NORTHDALE BOULEVARD/ROBINSON DRIVE.

STAGE 1 PHASE 2A CONSTRUCTION
- SET BRIDGE BEAMS SPAN 1.
- CONSTRUCT MEDIAN NORTHDALE BOULEVARD, ROBINSON DRIVE, AND HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT BITUMINOUS WEAR COURSE RAMP C, D, SHOULDER TH 10/47 EB, AND HANSON BOULEVARD SOUTH OF TH 10/47.
- COMPLETE RESTORATION ALL ROADWAYS SOUTH OF TH 10/47.
- CONSTRUCT TEMPORARY PAVEMENT RIGHT EB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2A EROSION CONTROL
- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG12
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION STAGING PLAN
T.H. 10/47
STAGE 1 PHASE 2A

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 89 / 681

PLOT DATE: Jan 7 12:21pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1\0

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

STAGE 1 PHASE 2A TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE LEFT LANE EB/WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE LEFT LANE EB/WB ROBINSON DRIVE AT HANSON BOULEVARD.
- CLOSE LEFT LANE SB/NB HANSON BOULEVARD, 115TH AVENUE TO NORTHDALE BOULEVARD/ROBINSON DRIVE.

STAGE 1 PHASE 2A CONSTRUCTION

- SET BRIDGE BEAMS SPAN 1.
- CONSTRUCT MEDIAN NORTHDALE BOULEVARD, ROBINSON DRIVE, AND HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT BITUMINOUS WEAR COURSE RAMP C, D, SHOULDER TH 10/47 EB, AND HANSON BOULEVARD SOUTH OF TH 10/47.
- COMPLETE RESTORATION ALL ROADWAYS SOUTH OF TH 10/47.
- CONSTRUCT TEMPORARY PAVEMENT RIGHT EB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2A EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.

NOTE: TEMPORARY DRAINAGE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE WITHIN THE WORK ZONE. TEMPORARY PIPES, STRUCTURES, AND GRADING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL PAYMENT MADE FOR THIS WORK. ALL INLETS SHALL BE PROTECTED WITH PROPER SEDIMENT AND EROSION CONTROL MEASURES.

THE CONTRACTOR SHALL COORDINATE THE REMOVAL OF INPLACE DRAINAGE PIPES AND STRUCTURES WITH THE CONTRACTOR'S STAGING PLAN TO ENSURE POSITIVE DRAINAGE WITHIN THE PROJECT LIMITS. ALL STORM SEWER FACILITIES DESIGNATED ON THE PLAN FOR REMOVAL SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR. ABANDONING STRUCTURES AND PIPES IN PLACE SHALL NOT BE ALLOWED.

THE CONTRACTOR MAY ELECT TO EXTEND PIPE RUNS ACROSS AREAS DESIGNATED FOR CONSTRUCTION UNDER FUTURE STAGES/PHASES. THIS MAY BE ALLOWED UPON APPROVAL OF THE ENGINEER. SUCH CROSSINGS MAY BE REQUIRED TO OCCUR AT NIGHT WITH PROPER TEMPORARY LANE CLOSURES. UPON COMPLETION OF PIPE INSTALLATION, THE BITUMINIOUS DRIVING SURFACE SHALL BE ADEQUATELY RESTORED.

ALL PIPE OUTLETS SHALL BE STABILIZED WITH BLANKET OR STONE.

6 OF 9

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ — DESIGN BY: JRM
CHKED. BY: LOM — DWG. NAME: CSTG13
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION STAGING PLAN
HANSON BOULEVARD
STAGE 1 PHASE 2A

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 90 / 681

PLOT DATE: Jan ?7 12:21pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0…13.dwg

Xref'd Drawings
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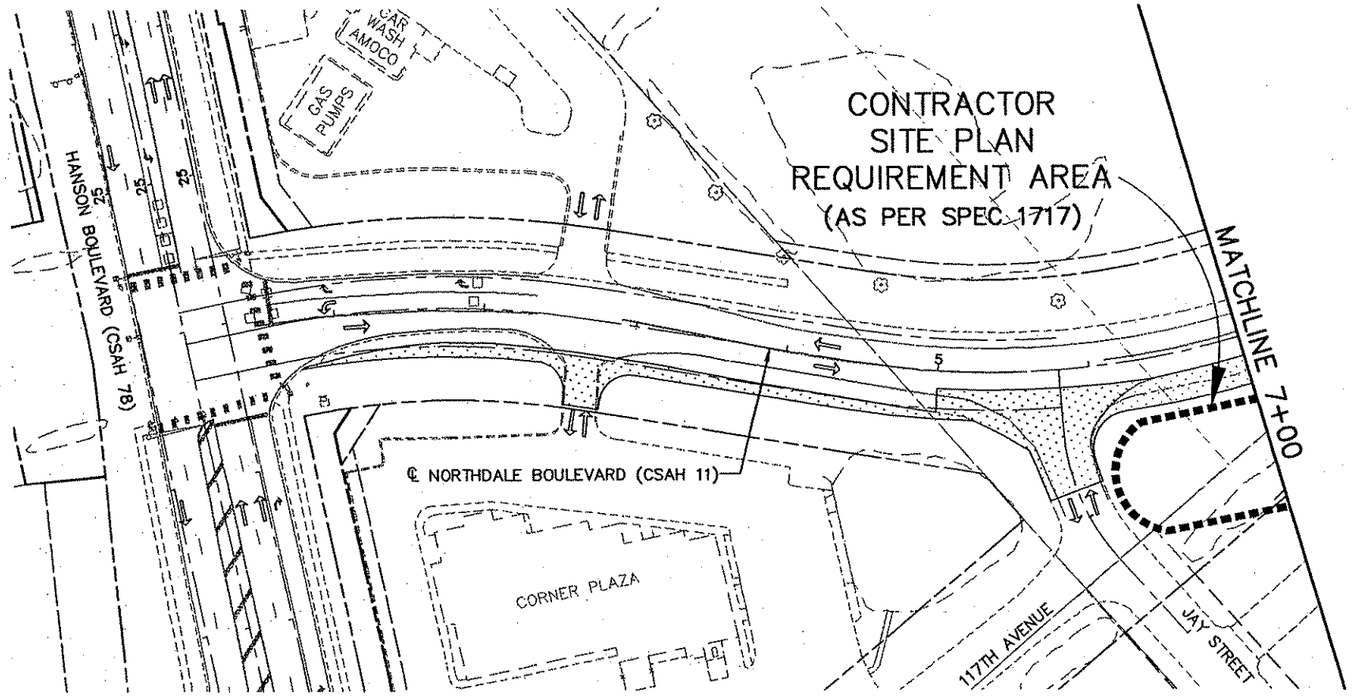
)TG1P2a
)NOTES1-2a
)LEGEND
)SN-ETO
)SN-ALI
)F-DWG
)SN-E
)x34bd



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 2A TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE LEFT LANE EB/WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE LEFT LANE EB/WB ROBINSON DRIVE AT HANSON BOULEVARD.
- CLOSE LEFT LANE SB/NB HANSON BOULEVARD, 115TH AVENUE TO NORTHDALE BOULEVARD/ROBINSON DRIVE.

STAGE 1 PHASE 2A CONSTRUCTION

- SET BRIDGE BEAMS SPAN 1.
- CONSTRUCT MEDIAN NORTHDALE BOULEVARD, ROBINSON DRIVE, AND HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT BITUMINOUS WEAR COURSE RAMP C, D, SHOULDER TH 10/47 EB, AND HANSON BOULEVARD SOUTH OF TH 10/47.
- COMPLETE RESTORATION ALL ROADWAYS SOUTH OF TH 10/47.
- CONSTRUCT TEMPORARY PAVEMENT RIGHT EB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2A EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG13A
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

NORTHDALE BOULEVARD

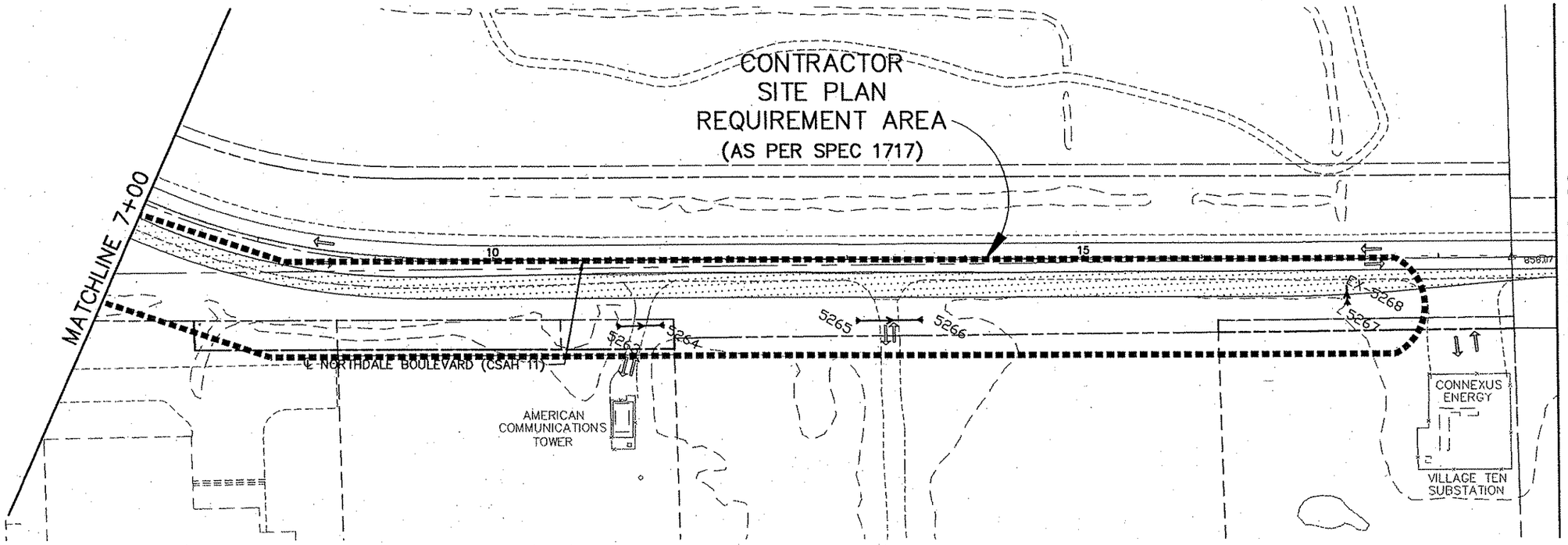
STAGE 1 PHASE 2A

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 91 / 681

PLOT DATE: Jan 07 12:21pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1\313A.dwg

Xref'd Drawings
rl--keel-stg
D--ESM
--S1P2a
--striping
TG1P2a
NOTES1-2a
LEGEND
ISN--
x34bd



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 2A TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE LEFT LANE EB/WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE LEFT LANE EB/WB ROBINSON DRIVE AT HANSON BOULEVARD.
- CLOSE LEFT LANE SB/NB HANSON BOULEVARD, 115TH AVENUE TO NORTHDALE BOULEVARD/ROBINSON DRIVE.

STAGE 1 PHASE 2A CONSTRUCTION

- SET BRIDGE BEAMS SPAN 1.
- CONSTRUCT MEDIAN NORTHDALE BOULEVARD, ROBINSON DRIVE, AND HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT BITUMINOUS WEAR COURSE RAMP C, D, SHOULDER TH 10/47 EB, AND HANSON BOULEVARD SOUTH OF TH 10/47.
- COMPLETE RESTORATION ALL ROADWAYS SOUTH OF TH 10/47.
- CONSTRUCT TEMPORARY PAVEMENT RIGHT EB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2A EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG13B
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

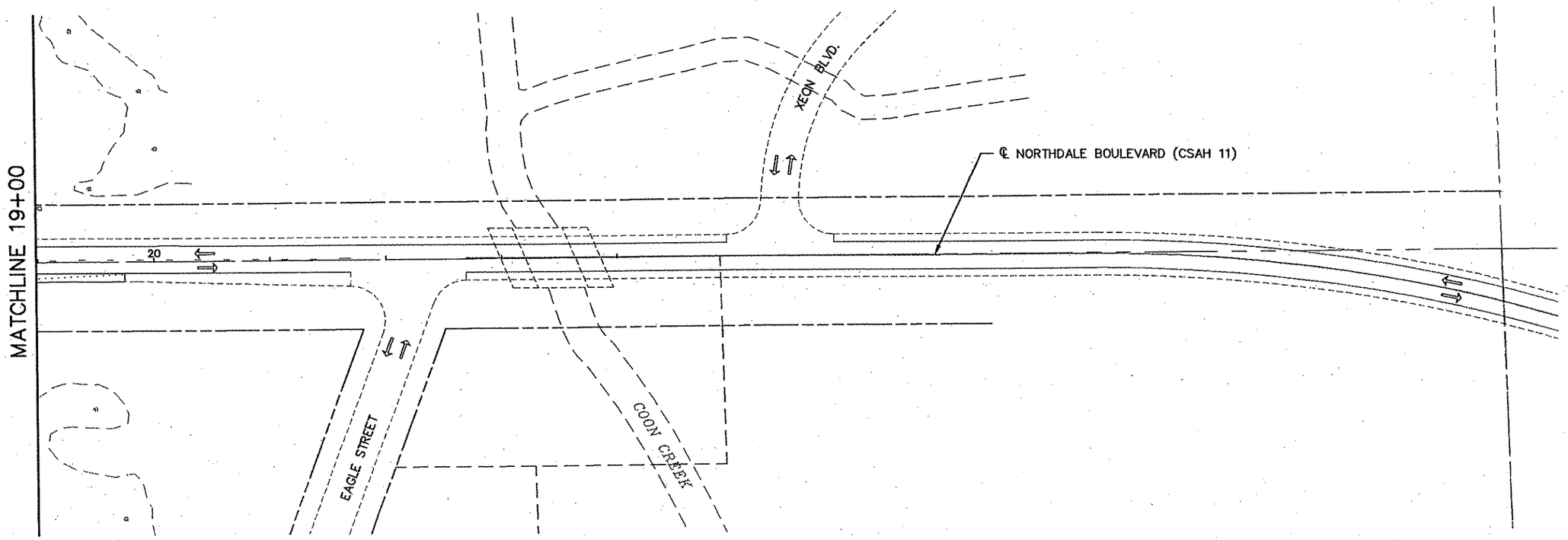
NORTHDALE BOULEVARD

STAGE 1 PHASE 2A

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 92 / 681

PLOT DATE: Jan 17 12:22pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0...dgn



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 2A TRAFFIC

- HANSON BOULEVARD CLOSED AT THE BRIDGE. FOLLOW DETOUR.
- CLOSE EXISTING RAMP C AND D.
- CLOSE RIGHT SHOULDER TH 10/47 EB STA. 327+00 TO 387+00.
- CLOSE HANSON BOULEVARD, NORTHDALE BOULEVARD/ROBINSON DRIVE TO RAMP C/D.
- CLOSE LEFT LANE EB/WB NORTHDALE BOULEVARD AT HANSON BOULEVARD.
- CLOSE LEFT LANE EB/WB ROBINSON DRIVE AT HANSON BOULEVARD.
- CLOSE LEFT LANE SB/NB HANSON BOULEVARD, 115TH AVENUE TO NORTHDALE BOULEVARD/ROBINSON DRIVE.

STAGE 1 PHASE 2A CONSTRUCTION

- SET BRIDGE BEAMS SPAN 1.
- CONSTRUCT MEDIAN NORTHDALE BOULEVARD, ROBINSON DRIVE, AND HANSON BOULEVARD TO 115TH AVENUE NW.
- CONSTRUCT BITUMINOUS WEAR COURSE RAMP C, D, SHOULDER TH 10/47 EB, AND HANSON BOULEVARD SOUTH OF TH 10/47.
- COMPLETE RESTORATION ALL ROADWAYS SOUTH OF TH 10/47.
- CONSTRUCT TEMPORARY PAVEMENT RIGHT EB NORTHDALE BOULEVARD.

STAGE 1 PHASE 2A EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG13C
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

NORTHDALE BOULEVARD

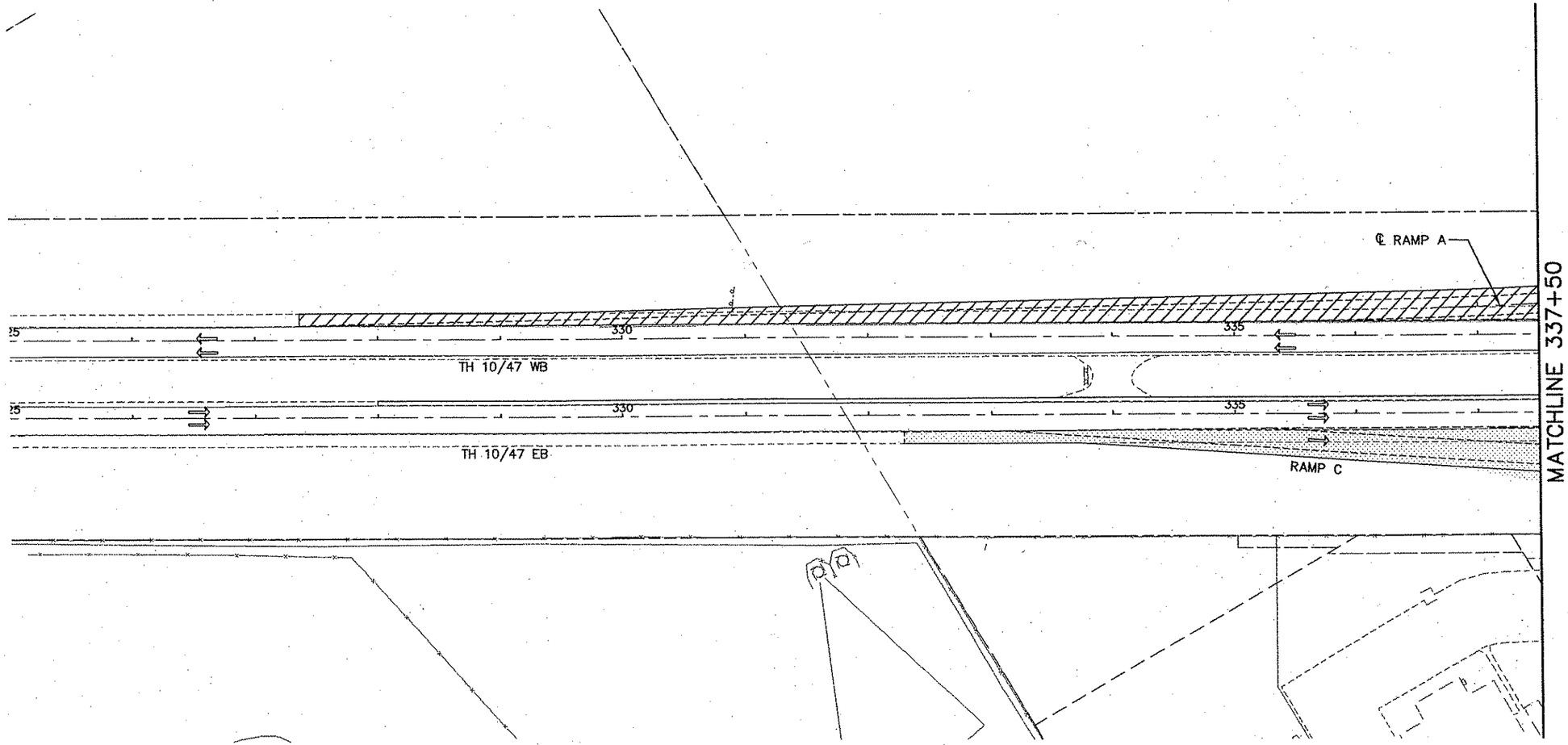
STAGE 1 PHASE 2A

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 93 / 681

PLOT DATE: Jan 17 12:22pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\C

Xref'd Drawings
1-keel-sig
D-ESM
-S2P1
TG2P1-PCO
TG2P1_MASK
TG2P1
NOTES2-1
F-DWG-
ISN-ESU
x34bdr



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 1 TRAFFIC

- CLOSE EXISTING RAMP A/B.
- CLOSE HANSON BOULEVARD, EXISTING RAMP A/B TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- CLOSE RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00.
- SHIFT TWO–WAY TRAFFIC TO TEMPORARY PAVEMENT AND CLOSE EXISTING WB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO–WAY TRAFFIC TO NB HANSON BOULEVARD AND CLOSE EXISTING SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 1 CONSTRUCTION

- SET BRIDGE BEAMS SPAN 2.
- CONSTRUCT BRIDGE NO. 02567 SUPERSTRUCTURE.
- REMOVE EXISTING RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- REMOVE HANSON BOULEVARD RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE WB NORTHDALE BOULEVARD.
- REMOVE SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT WB NORTHDALE BOULEVARD.
- CONSTRUCT BITUMINOUS WEAR COURSE, RAMP A, B, SHOULDER TH 10/47 WB AND HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT TEMPORARY PAVEMENT LEFT WB NORTHDALE BOULEVARD STA. 10+80 – 19+80.
- BEGIN RESTORATION, ALL ROADWAYS SOUTH OF NORTHDALE BOULEVARD TO TH 10/47 WB.

STAGE 2 PHASE 1 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200 FEET OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND A OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES.
- RAPID STABILIZATION ALONG RAMP B TO STABILIZE SLOPES AND DITCHES WITHIN 200 FEET OF WETLAND OR SLOPES WHERE DISCHARGE IS CONVEYED TO WETLAND.
- COORDINATE EROSION CONTROL DEVICE LOCATIONS WITH ADJACENT DEVELOPMENT IN THE NW QUADRANT OF THE INTERCHANGE.
- PROPOSED POND LOCATED WEST OF NORTHDALE BOULEVARD/HANSON BOULEVARD INTERSECTION WILL BE CONSTRUCTED BY ADJACENT DEVELOPER. SITE PLAN REQUIREMENT AREA PRIOR TO CONSTRUCTION OF STORM SEWER INLET.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG14
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

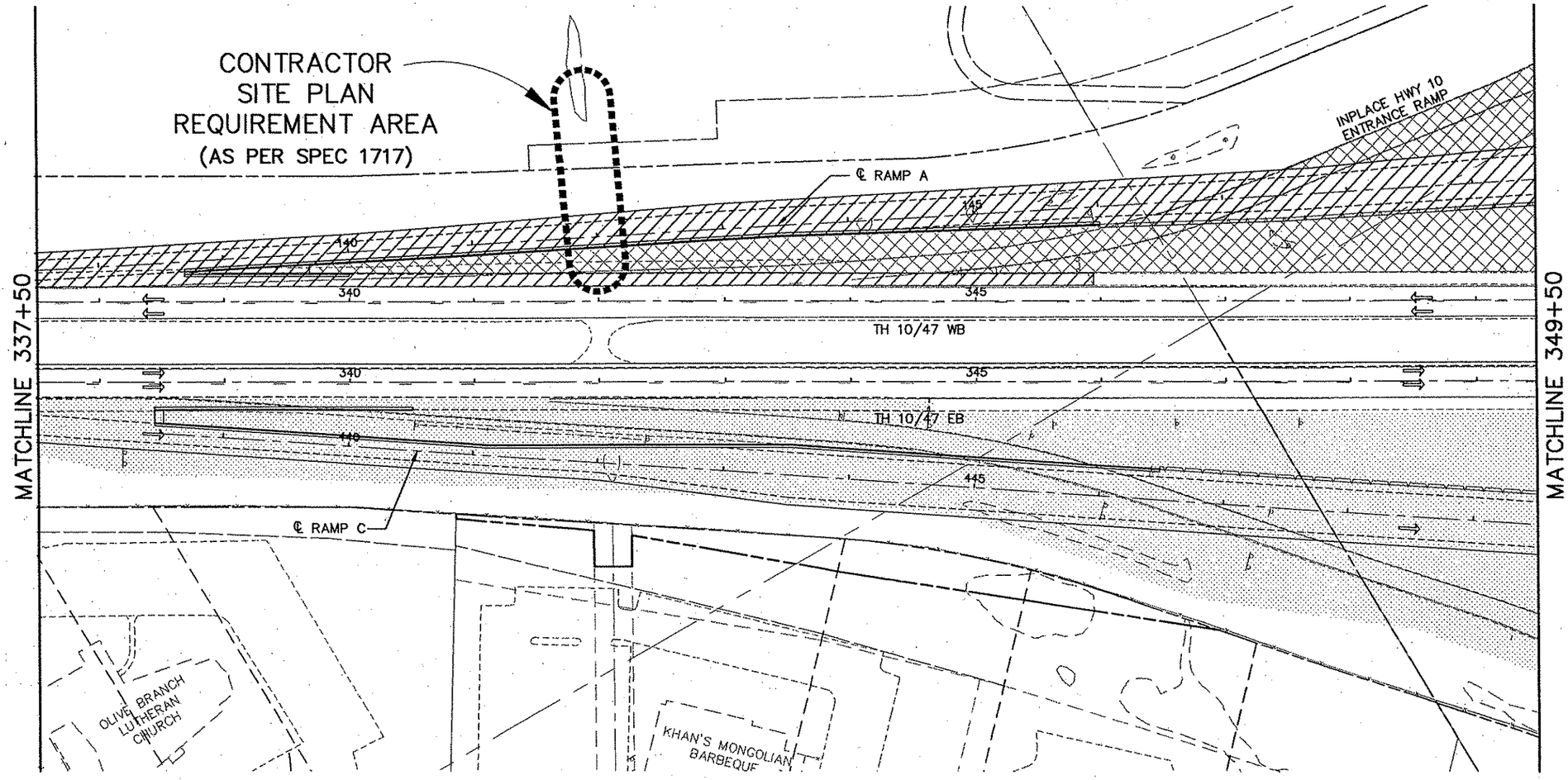
T.H. 10/47

STAGE 2 PHASE 1

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 94 / 681

PLOT DATE: Jan 7 12:22pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0...4.dwg



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 1 TRAFFIC

- CLOSE EXISTING RAMP A/B.
- CLOSE HANSON BOULEVARD, EXISTING RAMP A/B TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- CLOSE RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00.
- SHIFT TWO-WAY TRAFFIC TO TEMPORARY PAVEMENT AND CLOSE EXISTING WB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO-WAY TRAFFIC TO NB HANSON BOULEVARD AND CLOSE EXISTING SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 1 CONSTRUCTION

- SET BRIDGE BEAMS SPAN 2.
- CONSTRUCT BRIDGE NO. 02567 SUPERSTRUCTURE.
- REMOVE EXISTING RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- REMOVE HANSON BOULEVARD RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE WB NORTHDALE BOULEVARD.
- REMOVE SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT WB NORTHDALE BOULEVARD.
- CONSTRUCT BITUMINOUS WEAR COURSE, RAMP A, B, SHOULDER TH 10/47 WB AND HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT TEMPORARY PAVEMENT LEFT WB NORTHDALE BOULEVARD STA. 10+80 – 19+80.
- BEGIN RESTORATION, ALL ROADWAYS SOUTH OF NORTHDALE BOULEVARD TO TH 10/47 WB.

STAGE 2 PHASE 1 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200 FEET OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND A OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES.
- RAPID STABILIZATION ALONG RAMP B TO STABILIZE SLOPES AND DITCHES WITHIN 200 FEET OF WETLAND OR SLOPES WHERE DISCHARGE IS CONVEYED TO WETLAND.
- COORDINATE EROSION CONTROL DEVICE LOCATIONS WITH ADJACENT DEVELOPMENT IN THE NW QUADRANT OF THE INTERCHANGE.
- PROPOSED POND LOCATED WEST OF NORTHDALE BOULEVARD/HANSON BOULEVARD INTERSECTION WILL BE CONSTRUCTED BY ADJACENT DEVELOPER. SITE PLAN REQUIREMENT AREA PRIOR TO CONSTRUCTION OF STORM SEWER INLET.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG15
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

T.H. 10/47

STAGE 2 PHASE 1

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 95 / 681

Xref'd Drawings
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:SN-
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PLOT DATE: Jan 07 12:22pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1

Xref'd Drawings
ri-keel-sig
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:TG2P1-PCO
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:TG2P1
:NOTES2-1
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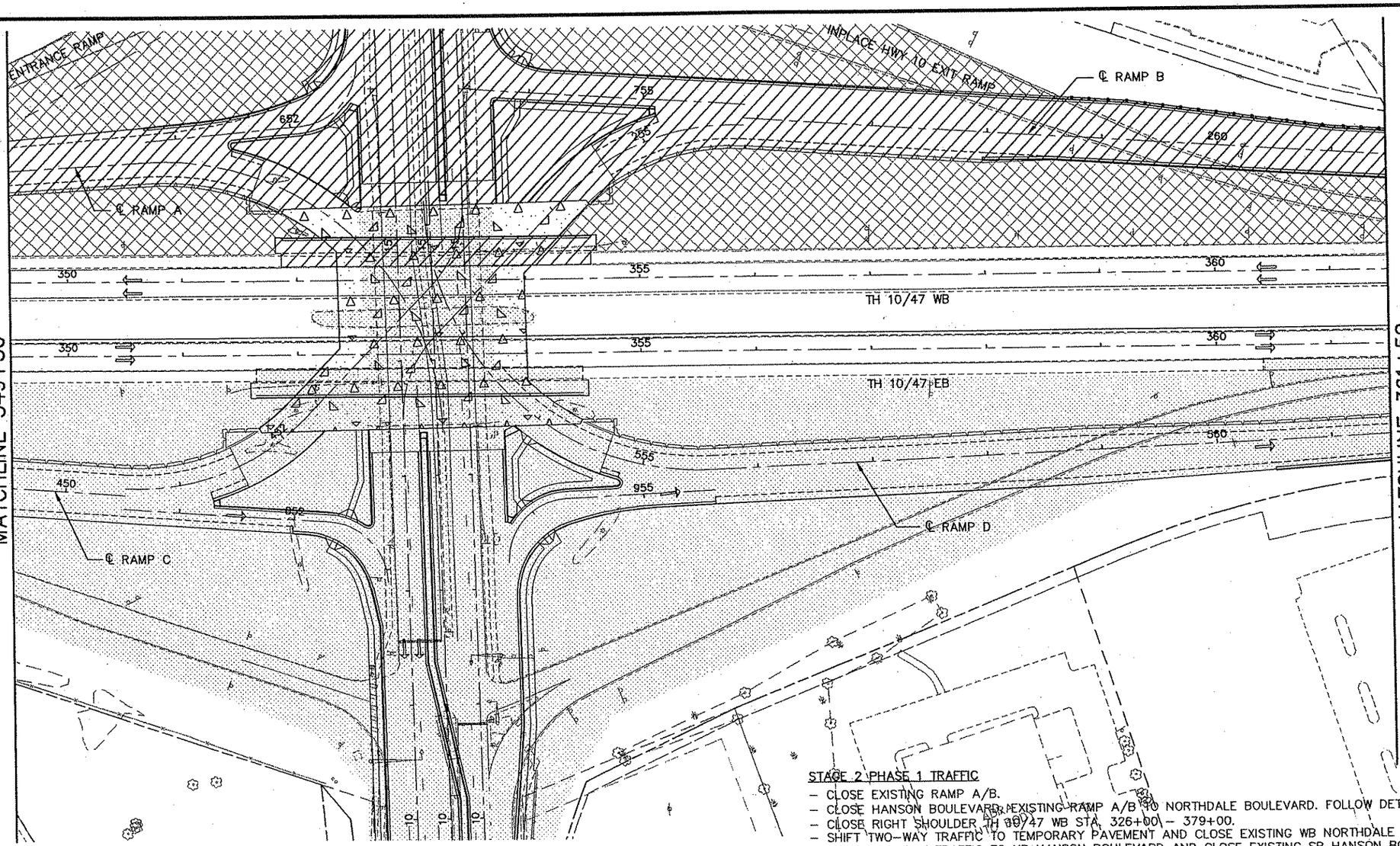

SEE SHEET 6 OF 10

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 1 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200 FEET OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND A OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES.
- RAPID STABILIZATION ALONG RAMP B TO STABILIZE SLOPES AND DITCHES WITHIN 200 FEET OF WETLAND OR SLOPES WHERE DISCHARGE IS CONVEYED TO WETLAND.
- COORDINATE EROSION CONTROL DEVICE LOCATIONS WITH ADJACENT DEVELOPMENT IN THE NW QUADRANT OF THE INTERCHANGE.
- PROPOSED POND LOCATED WEST OF NORTHDALE BOULEVARD/HANSON BOULEVARD INTERSECTION WILL BE CONSTRUCTED BY ADJACENT DEVELOPER. SITE PLAN REQUIREMENT AREA PRIOR TO CONSTRUCTION OF STORM SEWER INLET.

STAGE 2 PHASE 1 TRAFFIC

- CLOSE EXISTING RAMP A/B.
- CLOSE HANSON BOULEVARD EXISTING RAMP A/B TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- CLOSE RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00.
- SHIFT TWO–WAY TRAFFIC TO TEMPORARY PAVEMENT AND CLOSE EXISTING WB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO–WAY TRAFFIC TO NB HANSON BOULEVARD AND CLOSE EXISTING SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 1 CONSTRUCTION

- SET BRIDGE BEAMS SPAN 2.
- CONSTRUCT BRIDGE NO. 02567 SUPERSTRUCTURE.
- REMOVE EXISTING RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- REMOVE HANSON BOULEVARD RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE WB NORTHDALE BOULEVARD.
- REMOVE SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT WB NORTHDALE BOULEVARD.
- CONSTRUCT BITUMINOUS WEAR COURSE, RAMP A, B, SHOULDER TH 10/47 WB AND HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT TEMPORARY PAVEMENT LEFT WB NORTHDALE BOULEVARD STA. 10+80 – 19+80.
- BEGIN RESTORATION, ALL ROADWAYS SOUTH OF NORTHDALE BOULEVARD TO TH 10/47 WB.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG16
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

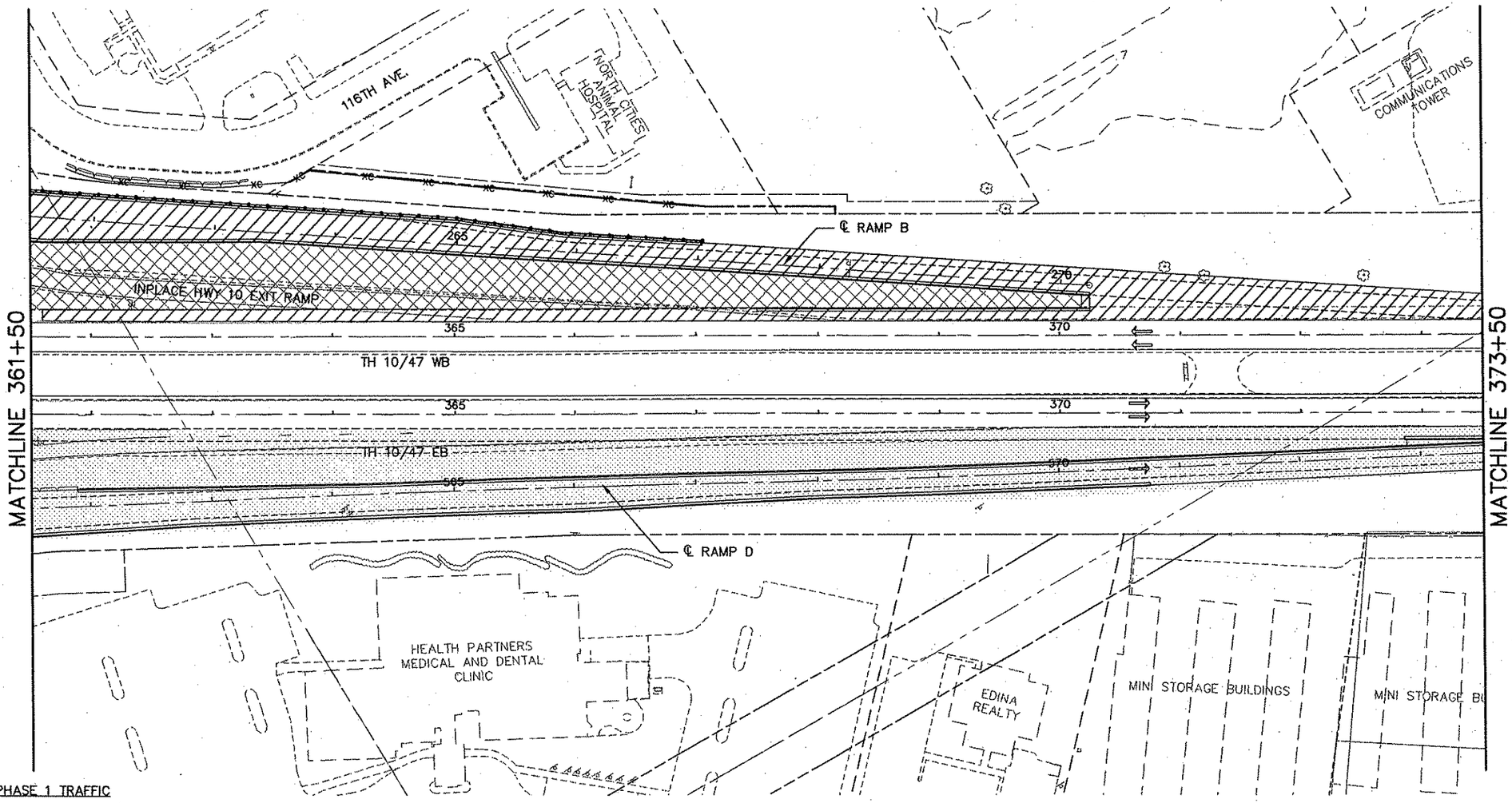
T.H. 10/47

STAGE 2 PHASE 1

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 96 / 681

PLOT DATE: Jan 17, 2007 12:22pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\D ...16.dwg



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 1 TRAFFIC

- CLOSE EXISTING RAMP A/B.
- CLOSE HANSON BOULEVARD, EXISTING RAMP A/B TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- CLOSE RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00.
- SHIFT TWO–WAY TRAFFIC TO TEMPORARY PAVEMENT AND CLOSE EXISTING WB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO–WAY TRAFFIC TO NB HANSON BOULEVARD AND CLOSE EXISTING SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 1 CONSTRUCTION

- SET BRIDGE BEAMS SPAN 2.
- CONSTRUCT BRIDGE NO. 02567 SUPERSTRUCTURE.
- REMOVE EXISTING RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- REMOVE HANSON BOULEVARD RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE WB NORTHDALE BOULEVARD.
- REMOVE SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT WB NORTHDALE BOULEVARD.
- CONSTRUCT BITUMINOUS WEAR COURSE, RAMP A, B, SHOULDER TH 10/47 WB AND HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT TEMPORARY PAVEMENT LEFT WB NORTHDALE BOULEVARD STA. 10+80 – 19+80.
- BEGIN RESTORATION, ALL ROADWAYS SOUTH OF NORTHDALE BOULEVARD TO TH 10/47 WB.

STAGE 2 PHASE 1 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200 FEET OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND A OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES.
- RAPID STABILIZATION ALONG RAMP B TO STABILIZE SLOPES AND DITCHES WITHIN 200 FEET OF WETLAND OR SLOPES WHERE DISCHARGE IS CONVEYED TO WETLAND.
- COORDINATE EROSION CONTROL DEVICE LOCATIONS WITH ADJACENT DEVELOPMENT IN THE NW QUADRANT OF THE INTERCHANGE.
- PROPOSED POND LOCATED WEST OF NORTHDALE BOULEVARD/HANSON BOULEVARD INTERSECTION WILL BE CONSTRUCTED BY ADJACENT DEVELOPER. SITE PLAN REQUIREMENT AREA PRIOR TO CONSTRUCTION OF STORM SEWER INLET.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG17
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

T.H. 10/47

STAGE 2 PHASE 1

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 97 / 681

PLOT DATE: Jan 07 12:22pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\CSTG17.dwg

Xref'd Drawings
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D-ESM
-S2P1
-TG2P1-PCO
-TG2P1_MASK
-TG2P1
-NOTES-1
-LB
-
ISI
ISN-
F-DWG
ISN-ESU
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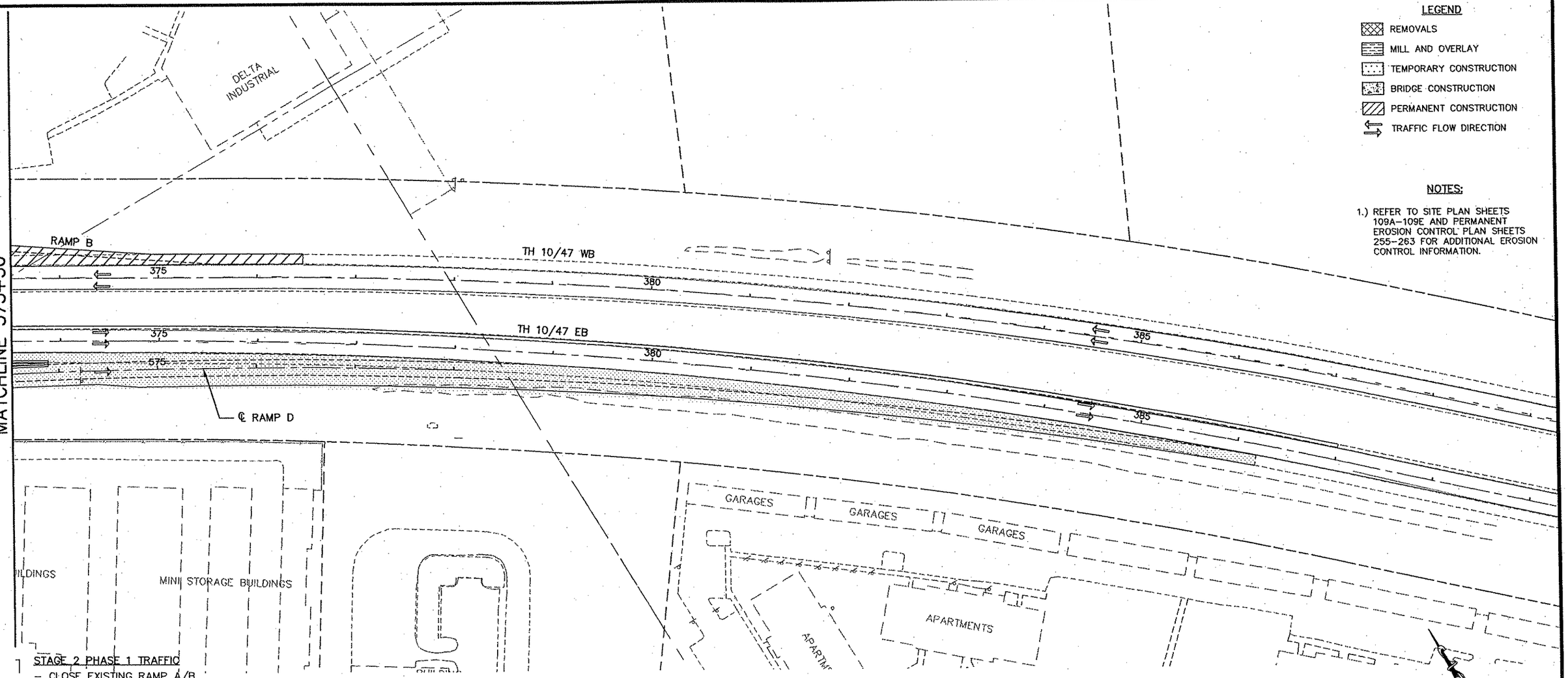

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

STAGE 2 PHASE 1 TRAFFIC

- CLOSE EXISTING RAMP A/B.
- CLOSE HANSON BOULEVARD, EXISTING RAMP A/B TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- CLOSE RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00.
- SHIFT TWO–WAY TRAFFIC TO TEMPORARY PAVEMENT AND CLOSE EXISTING WB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO–WAY TRAFFIC TO NB HANSON BOULEVARD AND CLOSE EXISTING SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 1 CONSTRUCTION

- SET BRIDGE BEAMS SPAN 2.
- CONSTRUCT BRIDGE NO. 02567 SUPERSTRUCTURE.
- REMOVE EXISTING RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- REMOVE HANSON BOULEVARD RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE WB NORTHDALE BOULEVARD.
- REMOVE SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT WB NORTHDALE BOULEVARD.
- CONSTRUCT BITUMINOUS WEAR COURSE, RAMP A, B, SHOULDER TH 10/47 WB AND HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT TEMPORARY PAVEMENT LEFT WB NORTHDALE BOULEVARD STA. 10+80 – 19+80.
- BEGIN RESTORATION, ALL ROADWAYS SOUTH OF NORTHDALE BOULEVARD TO TH 10/47 WB.

STAGE 2 PHASE 1 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200 FEET OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND A OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES.
- RAPID STABILIZATION ALONG RAMP B TO STABILIZE SLOPES AND DITCHES WITHIN 200 FEET OF WETLAND OR SLOPES WHERE DISCHARGE IS CONVEYED TO WETLAND.
- COORDINATE EROSION CONTROL DEVICE LOCATIONS WITH ADJACENT DEVELOPMENT IN THE NW QUADRANT OF THE INTERCHANGE.
- PROPOSED POND LOCATED WEST OF NORTHDALE BOULEVARD/HANSON BOULEVARD INTERSECTION WILL BE CONSTRUCTED BY ADJACENT DEVELOPER. SITE PLAN REQUIREMENT AREA PRIOR TO CONSTRUCTION OF STORM SEWER INLET.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG18
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

T.H. 10/47

STAGE 2 PHASE 1

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 98 / 681

PLOT DATE: Jan 7 12:23pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\06-8.dwg

Xref'd Drawings
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--striping
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LEGEND
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SN-ES
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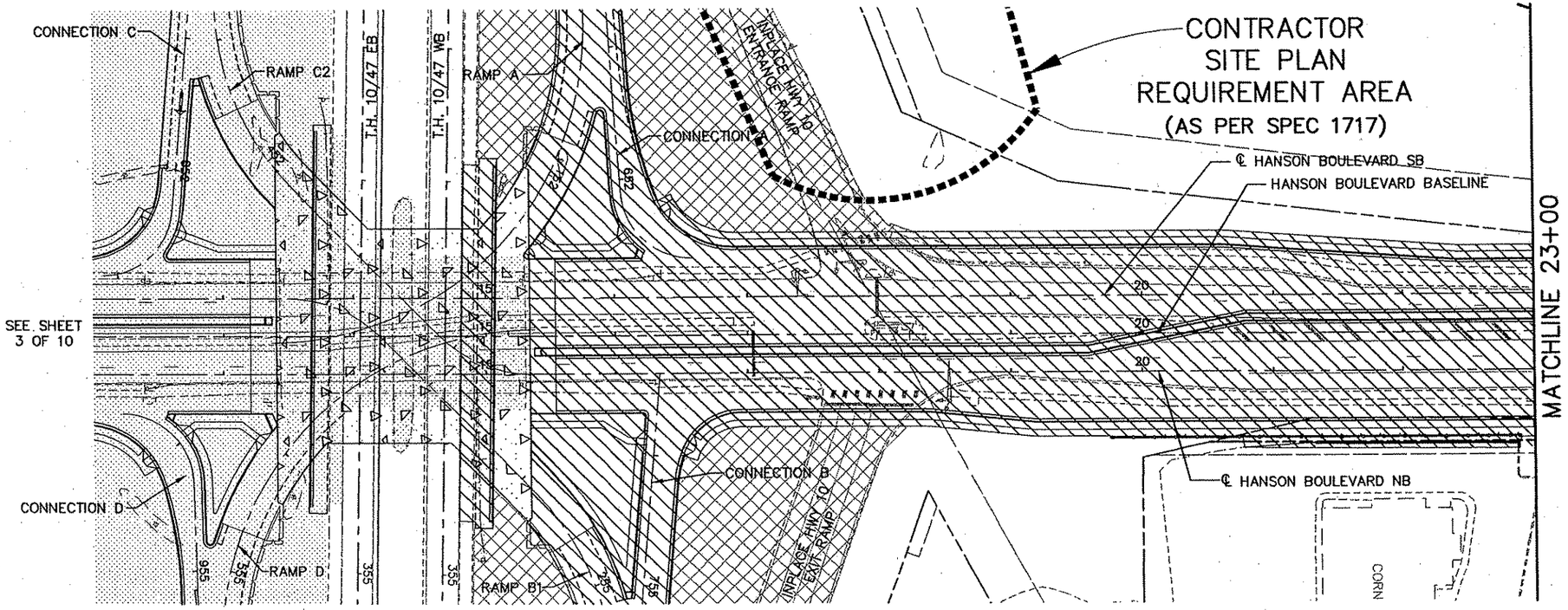

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

STAGE 2 PHASE 1 TRAFFIC

- CLOSE EXISTING RAMP A/B.
- CLOSE HANSON BOULEVARD, EXISTING RAMP A/B TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- CLOSE RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00.
- SHIFT TWO–WAY TRAFFIC TO TEMPORARY PAVEMENT AND CLOSE EXISTING WB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO–WAY TRAFFIC TO NB HANSON BOULEVARD AND CLOSE EXISTING SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 1 CONSTRUCTION

- SET BRIDGE BEAMS SPAN 2.
- CONSTRUCT BRIDGE NO. 02567 SUPERSTRUCTURE.
- REMOVE EXISTING RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- REMOVE HANSON BOULEVARD RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE WB NORTHDALE BOULEVARD.
- REMOVE SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT WB NORTHDALE BOULEVARD.
- CONSTRUCT BITUMINOUS WEAR COURSE, RAMP A, B, SHOULDER TH 10/47 WB AND HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT TEMPORARY PAVEMENT LEFT WB NORTHDALE BOULEVARD STA. 10+80 – 19+80.
- BEGIN RESTORATION, ALL ROADWAYS SOUTH OF NORTHDALE BOULEVARD TO TH 10/47 WB.

STAGE 2 PHASE 1 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200 FEET OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND A OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES.
- RAPID STABILIZATION ALONG RAMP B TO STABILIZE SLOPES AND DITCHES WITHIN 200 FEET OF WETLAND OR SLOPES WHERE DISCHARGE IS CONVEYED TO WETLAND.
- COORDINATE EROSION CONTROL DEVICE LOCATIONS WITH ADJACENT DEVELOPMENT IN THE NW QUADRANT OF THE INTERCHANGE.
- PROPOSED POND LOCATED WEST OF NORTHDALE BOULEVARD/HANSON BOULEVARD INTERSECTION WILL BE CONSTRUCTED BY ADJACENT DEVELOPER. SITE PLAN REQUIREMENT AREA PRIOR TO CONSTRUCTION OF STORM SEWER INLET.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.

6 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG19
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

HANSON BOULEVARD

STAGE 2 PHASE 1

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 99 / 681

PLOT DATE: Jan 07 12:23pm DISK FILE NAME: (16:1) R:\33689\33889042\PLAN-SHT\TRAF-CONT-STAGE\CSTG19.dwg

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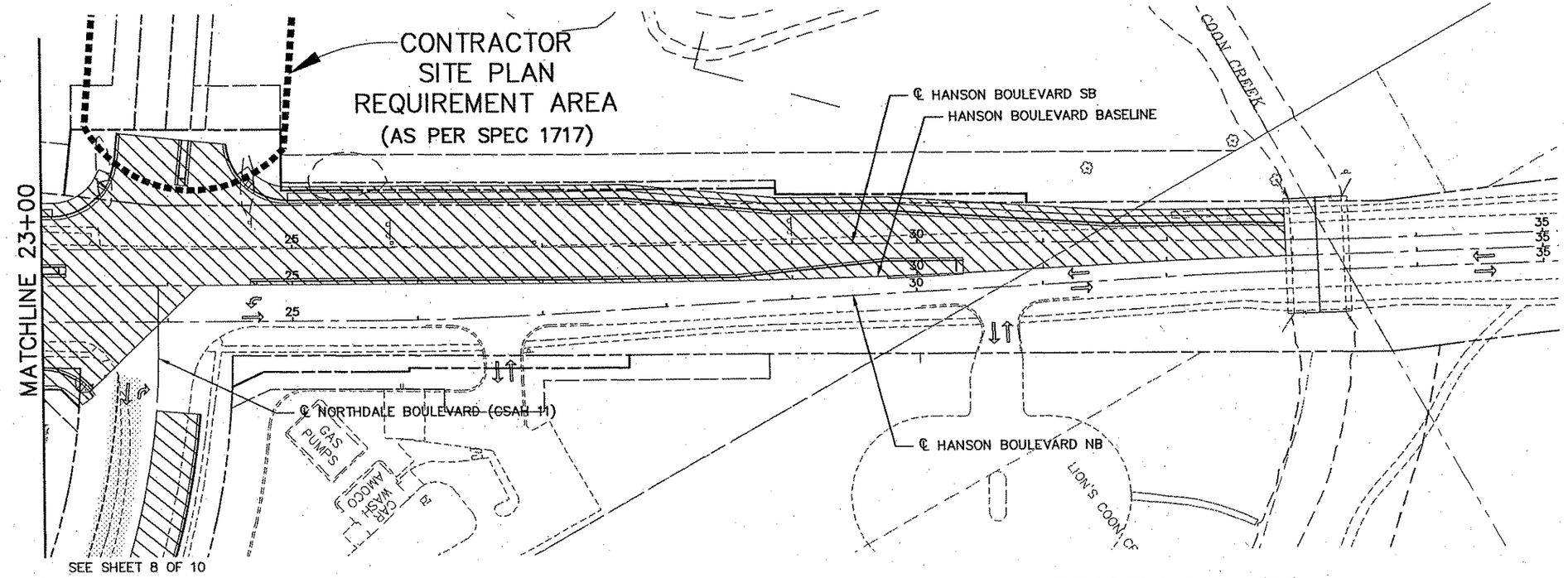

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 1 TRAFFIC

- CLOSE EXISTING RAMP A/B.
- CLOSE HANSON BOULEVARD, EXISTING RAMP A/B TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- CLOSE RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00.
- SHIFT TWO-WAY TRAFFIC TO TEMPORARY PAVEMENT AND CLOSE EXISTING WB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO-WAY TRAFFIC TO NB HANSON BOULEVARD AND CLOSE EXISTING SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 1 CONSTRUCTION

- SET BRIDGE BEAMS SPAN 2.
- CONSTRUCT BRIDGE NO. 02567 SUPERSTRUCTURE.
- REMOVE EXISTING RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- REMOVE HANSON BOULEVARD RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE WB NORTHDALE BOULEVARD.
- REMOVE SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT WB NORTHDALE BOULEVARD.
- CONSTRUCT BITUMINOUS WEAR COURSE, RAMP A, B, SHOULDER TH 10/47 WB AND HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT TEMPORARY PAVEMENT LEFT WB NORTHDALE BOULEVARD STA. 10+80 – 19+80.
- BEGIN RESTORATION, ALL ROADWAYS SOUTH OF NORTHDALE BOULEVARD TO TH 10/47 WB.

STAGE 2 PHASE 1 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200 FEET OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND A OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES.
- RAPID STABILIZATION ALONG RAMP B TO STABILIZE SLOPES AND DITCHES WITHIN 200 FEET OF WETLAND OR SLOPES WHERE DISCHARGE IS CONVEYED TO WETLAND.
- COORDINATE EROSION CONTROL DEVICE LOCATIONS WITH ADJACENT DEVELOPMENT IN THE NW QUADRANT OF THE INTERCHANGE.
- PROPOSED POND LOCATED WEST OF NORTHDALE BOULEVARD/HANSON BOULEVARD INTERSECTION WILL BE CONSTRUCTED BY ADJACENT DEVELOPER. SITE PLAN REQUIREMENT AREA PRIOR TO CONSTRUCTION OF STORM SEWER INLET.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.

NOTE: TEMPORARY DRAINAGE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE WITHIN THE WORK ZONE. TEMPORARY PIPES, STRUCTURES, AND GRADING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL PAYMENT MADE FOR THIS WORK. ALL INLETS SHALL BE PROTECTED WITH PROPER SEDIMENT AND EROSION CONTROL MEASURES.

THE CONTRACTOR SHALL COORDINATE THE REMOVAL OF INPLACE DRAINAGE PIPES AND STRUCTURES WITH THE CONTRACTOR'S STAGING PLAN TO ENSURE POSITIVE DRAINAGE WITHIN THE PROJECT LIMITS. ALL STORM SEWER FACILITIES DESIGNATED ON THE PLAN FOR REMOVAL SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR. ABANDONING STRUCTURES AND PIPES IN PLACE SHALL NOT BE ALLOWED.

THE CONTRACTOR MAY ELECT TO EXTEND PIPE RUNS ACROSS AREAS DESIGNATED FOR CONSTRUCTION UNDER FUTURE STAGES/PHASES. THIS MAY BE ALLOWED UPON APPROVAL OF THE ENGINEER. SUCH CROSSINGS MAY BE REQUIRED TO OCCUR AT NIGHT WITH PROPER TEMPORARY LANE CLOSURES. UPON COMPLETION OF PIPE INSTALLATION, THE BITUMINIOUS DRIVING SURFACE SHALL BE ADEQUATELY RESTORED.

ALL PIPE OUTLETS SHALL BE STABILIZED WITH BLANKET OR STONE.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG20
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

HANSON BOULEVARD

STAGE 2 PHASE 1

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 100 / 681

PLOT DATE: Jan 17 12:23pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0...20.dwg

Xref'd Drawings
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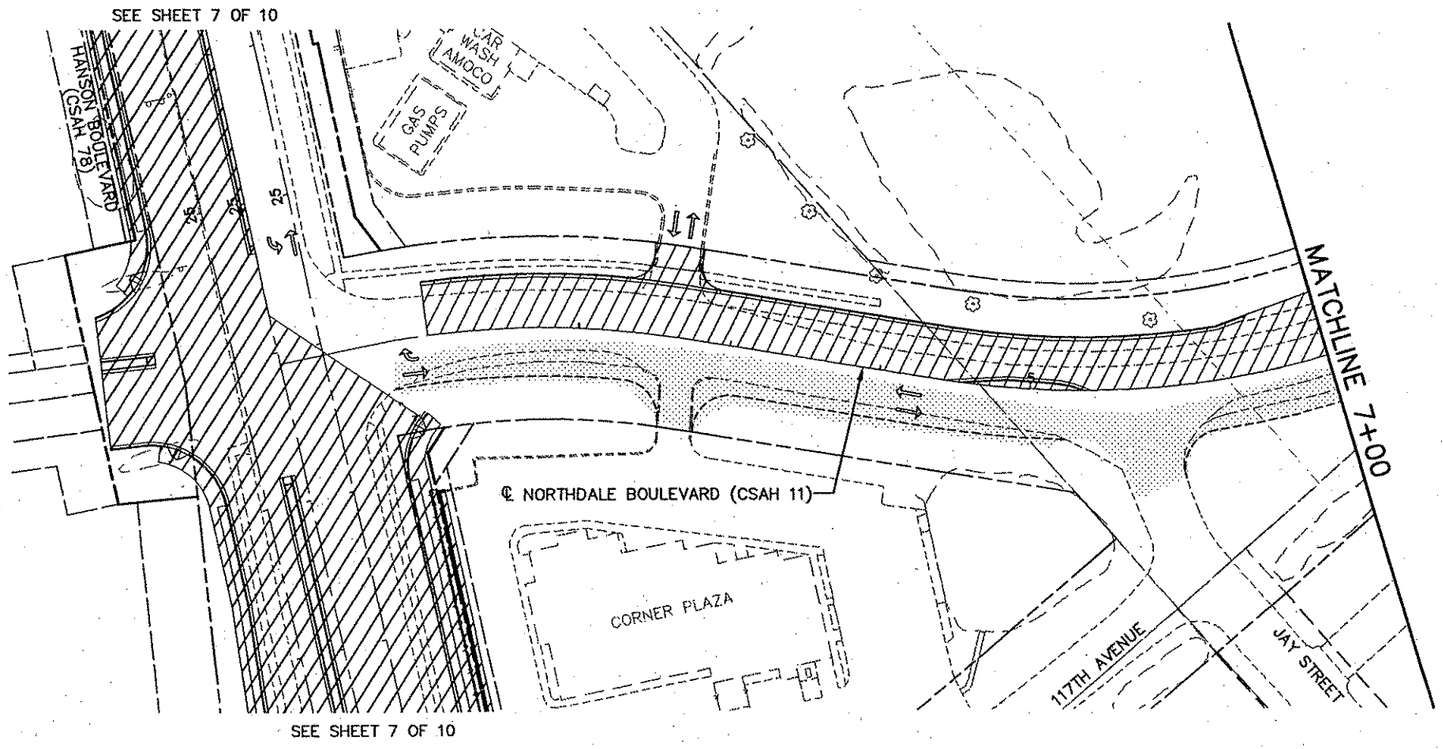

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 1 TRAFFIC

- CLOSE EXISTING RAMP A/B.
- CLOSE HANSON BOULEVARD, EXISTING RAMP A/B TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- CLOSE RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00.
- SHIFT TWO–WAY TRAFFIC TO TEMPORARY PAVEMENT AND CLOSE EXISTING WB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO–WAY TRAFFIC TO NB HANSON BOULEVARD AND CLOSE EXISTING SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 1 CONSTRUCTION

- SET BRIDGE BEAMS SPAN 2.
- CONSTRUCT BRIDGE NO. 02567 SUPERSTRUCTURE.
- REMOVE EXISTING RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- REMOVE HANSON BOULEVARD RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE WB NORTHDALE BOULEVARD.
- REMOVE SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT WB NORTHDALE BOULEVARD.
- CONSTRUCT BITUMINOUS WEAR COURSE, RAMP A, B, SHOULDER TH 10/47 WB AND HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT TEMPORARY PAVEMENT LEFT WB NORTHDALE BOULEVARD STA. 10+80 – 19+80.
- BEGIN RESTORATION, ALL ROADWAYS SOUTH OF NORTHDALE BOULEVARD TO TH 10/47 WB.

STAGE 2 PHASE 1 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200 FEET OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND A OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES.
- RAPID STABILIZATION ALONG RAMP B TO STABILIZE SLOPES AND DITCHES WITHIN 200 FEET OF WETLAND OR SLOPES WHERE DISCHARGE IS CONVEYED TO WETLAND.
- COORDINATE EROSION CONTROL DEVICE LOCATIONS WITH ADJACENT DEVELOPMENT IN THE NW QUADRANT OF THE INTERCHANGE.
- PROPOSED POND LOCATED WEST OF NORTHDALE BOULEVARD/HANSON BOULEVARD INTERSECTION WILL BE CONSTRUCTED BY ADJACENT DEVELOPER. SITE PLAN REQUIREMENT AREA PRIOR TO CONSTRUCTION OF STORM SEWER INLET.

NOTE: TEMPORARY DRAINAGE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE WITHIN THE WORK ZONE. TEMPORARY PIPES, STRUCTURES, AND GRADING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL PAYMENT MADE FOR THIS WORK. ALL INLETS SHALL BE PROTECTED WITH PROPER SEDIMENT AND EROSION CONTROL MEASURES.

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ALL PIPE OUTLETS SHALL BE STABILIZED WITH BLANKET OR STONE.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG21
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

NORTHDALE BOULEVARD

STAGE 2 PHASE 1

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 101 / 681

PLOT DATE: Jan 07 12:23pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 21.dwg

Xref'd Drawings
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TG2P1-PCO
TG2P1_MASK
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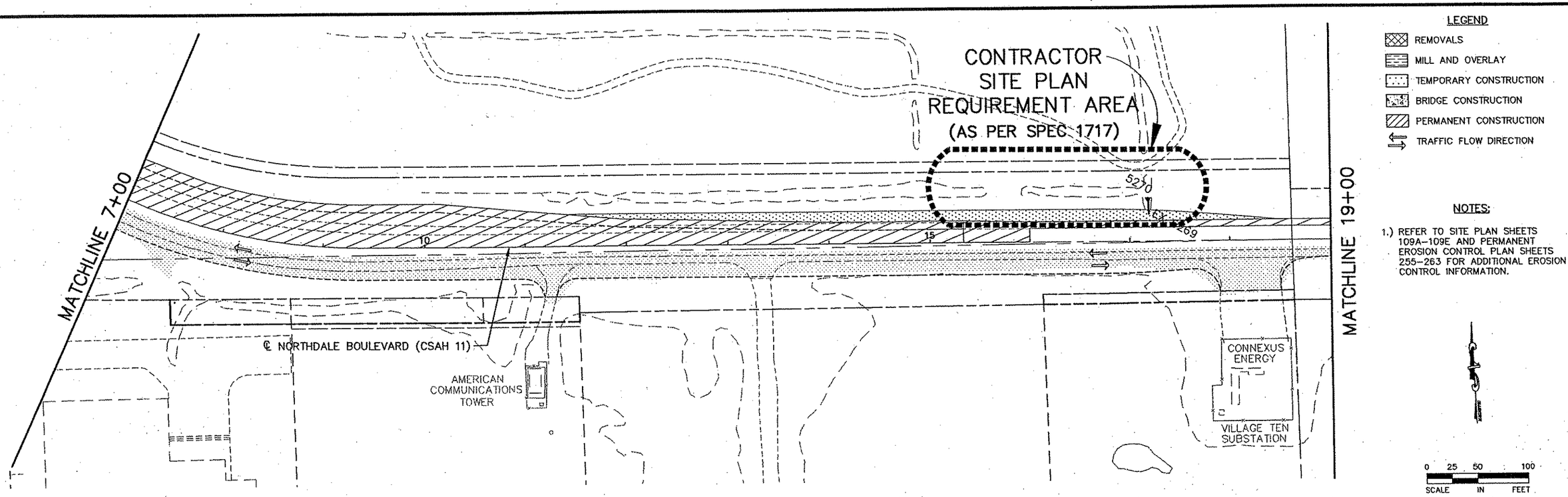
IS.
F-DW
ISN-ES.
x34bdr



STAGE 2 PHASE 1 TRAFFIC

- CLOSE EXISTING RAMP A/B.
- CLOSE HANSON BOULEVARD, EXISTING RAMP A/B TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- CLOSE RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00.
- SHIFT TWO-WAY TRAFFIC TO TEMPORARY PAVEMENT AND CLOSE EXISTING WB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO-WAY TRAFFIC TO NB HANSON BOULEVARD AND CLOSE EXISTING SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 1 CONSTRUCTION

- SET BRIDGE BEAMS SPAN 2.
- CONSTRUCT BRIDGE NO. 02567 SUPERSTRUCTURE.
- REMOVE EXISTING RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- REMOVE HANSON BOULEVARD RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE WB NORTHDALE BOULEVARD.
- REMOVE SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT WB NORTHDALE BOULEVARD.
- CONSTRUCT BITUMINOUS WEAR COURSE, RAMP A, B, SHOULDER TH 10/47 WB AND HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT TEMPORARY PAVEMENT LEFT WB NORTHDALE BOULEVARD STA. 10+80 – 19+80.
- BEGIN RESTORATION, ALL ROADWAYS SOUTH OF NORTHDALE BOULEVARD TO TH 10/47 WB.

STAGE 2 PHASE 1 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200 FEET OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND A OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES.
- RAPID STABILIZATION ALONG RAMP B TO STABILIZE SLOPES AND DITCHES WITHIN 200 FEET OF WETLAND OR SLOPES WHERE DISCHARGE IS CONVEYED TO WETLAND.
- COORDINATE EROSION CONTROL DEVICE LOCATIONS WITH ADJACENT DEVELOPMENT IN THE NW QUADRANT OF THE INTERCHANGE.
- PROPOSED POND LOCATED WEST OF NORTHDALE BOULEVARD/HANSON BOULEVARD INTERSECTION WILL BE CONSTRUCTED BY ADJACENT DEVELOPER. SITE PLAN REQUIREMENT AREA PRIOR TO CONSTRUCTION OF STORM SEWER INLET.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.

NOTE: TEMPORARY DRAINAGE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE WITHIN THE WORK ZONE. TEMPORARY PIPES, STRUCTURES, AND GRADING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL PAYMENT MADE FOR THIS WORK. ALL INLETS SHALL BE PROTECTED WITH PROPER SEDIMENT AND EROSION CONTROL MEASURES.

THE CONTRACTOR SHALL COORDINATE THE REMOVAL OF INPLACE DRAINAGE PIPES AND STRUCTURES WITH THE CONTRACTOR'S STAGING PLAN TO ENSURE POSITIVE DRAINAGE WITHIN THE PROJECT LIMITS. ALL STORM SEWER FACILITIES DESIGNATED ON THE PLAN FOR REMOVAL SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR. ABANDONING STRUCTURES AND PIPES IN PLACE SHALL NOT BE ALLOWED.

THE CONTRACTOR MAY ELECT TO EXTEND PIPE RUNS ACROSS AREAS DESIGNATED FOR CONSTRUCTION UNDER FUTURE STAGES/PHASES. THIS MAY BE ALLOWED UPON APPROVAL OF THE ENGINEER. SUCH CROSSINGS MAY BE REQUIRED TO OCCUR AT NIGHT WITH PROPER TEMPORARY LANE CLOSURES. UPON COMPLETION OF PIPE INSTALLATION, THE BITUMINIOUS DRIVING SURFACE SHALL BE ADEQUATELY RESTORED.

ALL PIPE OUTLETS SHALL BE STABILIZED WITH BLANKET OR STONE.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG22
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1379 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/6/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

NORTHDALE BOULEVARD

STAGE 2 PHASE 1

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 102 / 681

PLOT DATE: Jan 17 12:23pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\02.dwg

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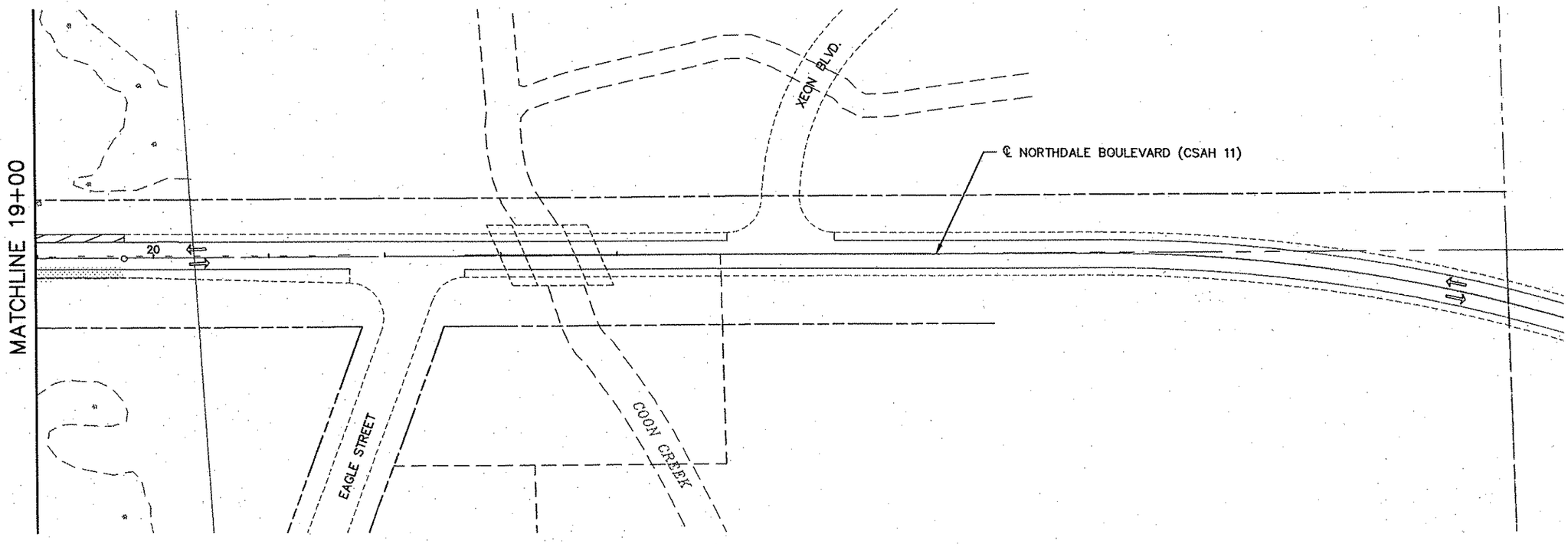

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 1 TRAFFIC

- CLOSE EXISTING RAMP A/B.
- CLOSE HANSON BOULEVARD, EXISTING RAMP A/B TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- CLOSE RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00.
- SHIFT TWO–WAY TRAFFIC TO TEMPORARY PAVEMENT AND CLOSE EXISTING WB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO–WAY TRAFFIC TO NB HANSON BOULEVARD AND CLOSE EXISTING SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 1 CONSTRUCTION

- SET BRIDGE BEAMS SPAN 2.
- CONSTRUCT BRIDGE NO. 02567 SUPERSTRUCTURE.
- REMOVE EXISTING RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- REMOVE HANSON BOULEVARD RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE WB NORTHDALE BOULEVARD.
- REMOVE SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT SB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- CONSTRUCT WB NORTHDALE BOULEVARD.
- CONSTRUCT BITUMINOUS WEAR COURSE, RAMP A, B, SHOULDER TH 10/47 WB AND HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- CONSTRUCT TEMPORARY PAVEMENT LEFT WB NORTHDALE BOULEVARD STA. 10+80 – 19+80.
- BEGIN RESTORATION, ALL ROADWAYS SOUTH OF NORTHDALE BOULEVARD TO TH 10/47 WB.

STAGE 2 PHASE 1 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200 FEET OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- CONSTRUCT POND A OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO OTHER GRADING AND CONSTRUCTION ACTIVITIES.
- RAPID STABILIZATION ALONG RAMP B TO STABILIZE SLOPES AND DITCHES WITHIN 200 FEET OF WETLAND OR SLOPES WHERE DISCHARGE IS CONVEYED TO WETLAND.
- COORDINATE EROSION CONTROL DEVICE LOCATIONS WITH ADJACENT DEVELOPMENT IN THE NW QUADRANT OF THE INTERCHANGE.
- PROPOSED POND LOCATED WEST OF NORTHDALE BOULEVARD/HANSON BOULEVARD INTERSECTION WILL BE CONSTRUCTED BY ADJACENT DEVELOPER. SITE PLAN REQUIREMENT AREA PRIOR TO CONSTRUCTION OF STORM SEWER INLET.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG23
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

NORTHDALE BOULEVARD

STAGE 2 PHASE 1

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 103 / 681

PLOT DATE: Jan 17 12:23pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0

Xref'd Drawings
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ISN-ES
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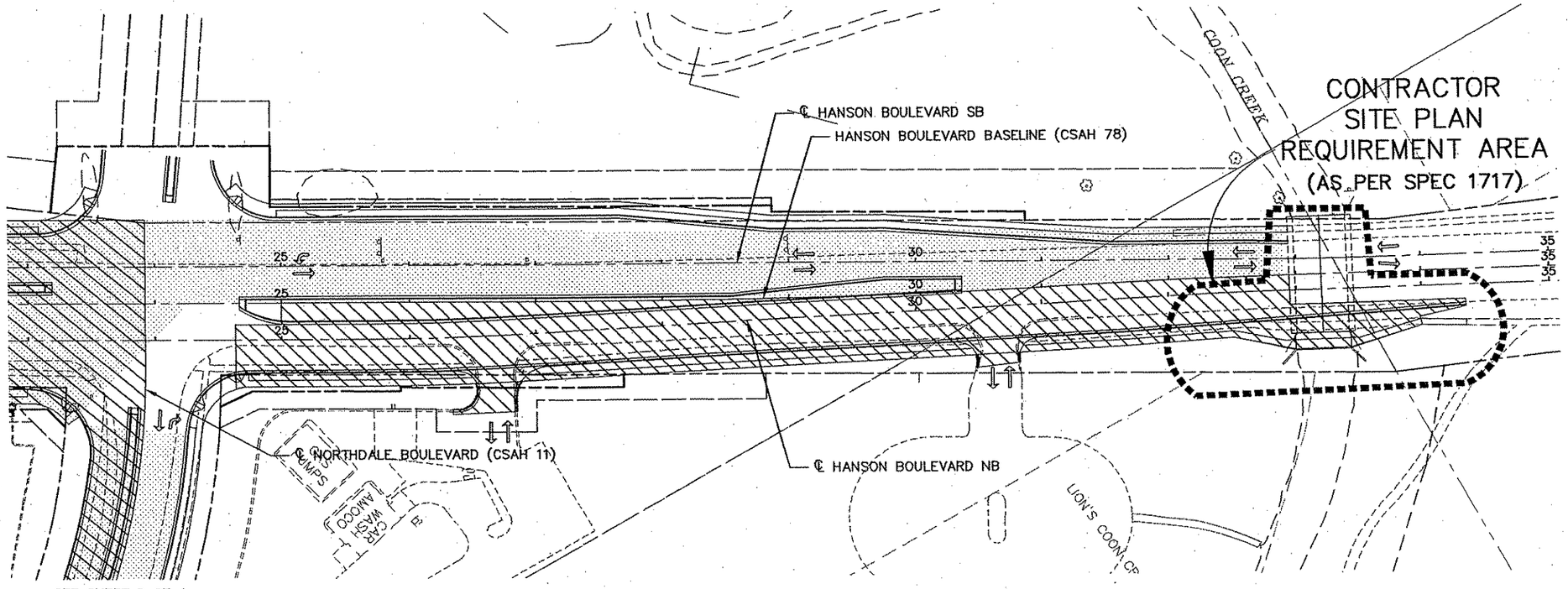


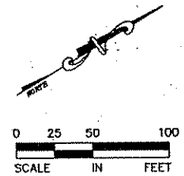
SEE SHEET 2 OF 4

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.



STAGE 2 PHASE 2 TRAFFIC

- EXISTING RAMP A/B REMAINS CLOSED.
- HANSON BOULEVARD, EXISTING RAMP A/B REMAINS CLOSED TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00 REMAINS CLOSED.
- SHIFT TWO-WAY TRAFFIC TO NEW WB NORTHDALE BOULEVARD AND CLOSE EXISTING EB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO-WAY TRAFFIC TO NEW SB HANSON BOULEVARD AND CLOSE EXISTING NB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 2 CONSTRUCTION

- COMPLETE BRIDGE NO. 02567 SUPERSTRUCTURE.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE EB NORTHDALE BOULEVARD.
- REMOVE NB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- REMOVE JAY STREET.
- CONSTRUCT EB NORTHDALE BOULEVARD.
- CONSTRUCT JAY STREET.
- CONSTRUCT NB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- REMOVE TEMPORARY PAVEMENT FOR BYPASS No. 1.
- COON CREEK BRIDGE WIDENING

STAGE 2 PHASE 2 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.
- PLACE HEAVY DUTY SILT FENCE IN AREAS ADJACENT TO WETLANDS AND MACHINE SLICED SILT FENCE ALONG CONSTRUCTION EASEMENT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION, REPAIR AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL MEASURES.

NOTE: TEMPORARY DRAINAGE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE WITHIN THE WORK ZONE. TEMPORARY PIPES, STRUCTURES, AND GRADING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL PAYMENT MADE FOR THIS WORK. ALL INLETS SHALL BE PROTECTED WITH PROPER SEDIMENT AND EROSION CONTROL MEASURES.

THE CONTRACTOR SHALL COORDINATE THE REMOVAL OF INPLACE DRAINAGE PIPES AND STRUCTURES WITH THE CONTRACTOR'S STAGING PLAN TO ENSURE POSITIVE DRAINAGE WITHIN THE PROJECT LIMITS. ALL STORM SEWER FACILITIES DESIGNATED ON THE PLAN FOR REMOVAL SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR. ABANDONING STRUCTURES AND PIPES IN PLACE SHALL NOT BE ALLOWED.

THE CONTRACTOR MAY ELECT TO EXTEND PIPE RUNS ACROSS AREAS DESIGNATED FOR CONSTRUCTION UNDER FUTURE STAGES/PHASES. THIS MAY BE ALLOWED UPON APPROVAL OF THE ENGINEER. SUCH CROSSINGS MAY BE REQUIRED TO OCCUR AT NIGHT WITH PROPER TEMPORARY LANE CLOSURES. UPON COMPLETION OF PIPE INSTALLATION, THE BITUMINIOUS DRIVING SURFACE SHALL BE ADEQUATELY RESTORED.

ALL PIPE OUTLETS SHALL BE STABILIZED WITH BLANKET OR STONE.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG24
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

HANSON BOULEVARD

STAGE 2 PHASE 2

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 104 / 681

PLOT DATE: Jan. 6 7 12:23pm. DISK FILE NAME: (16.1) R:\33689\33889042\PLAN-SHT\TRAF-CONT-STAGE\04.dwg

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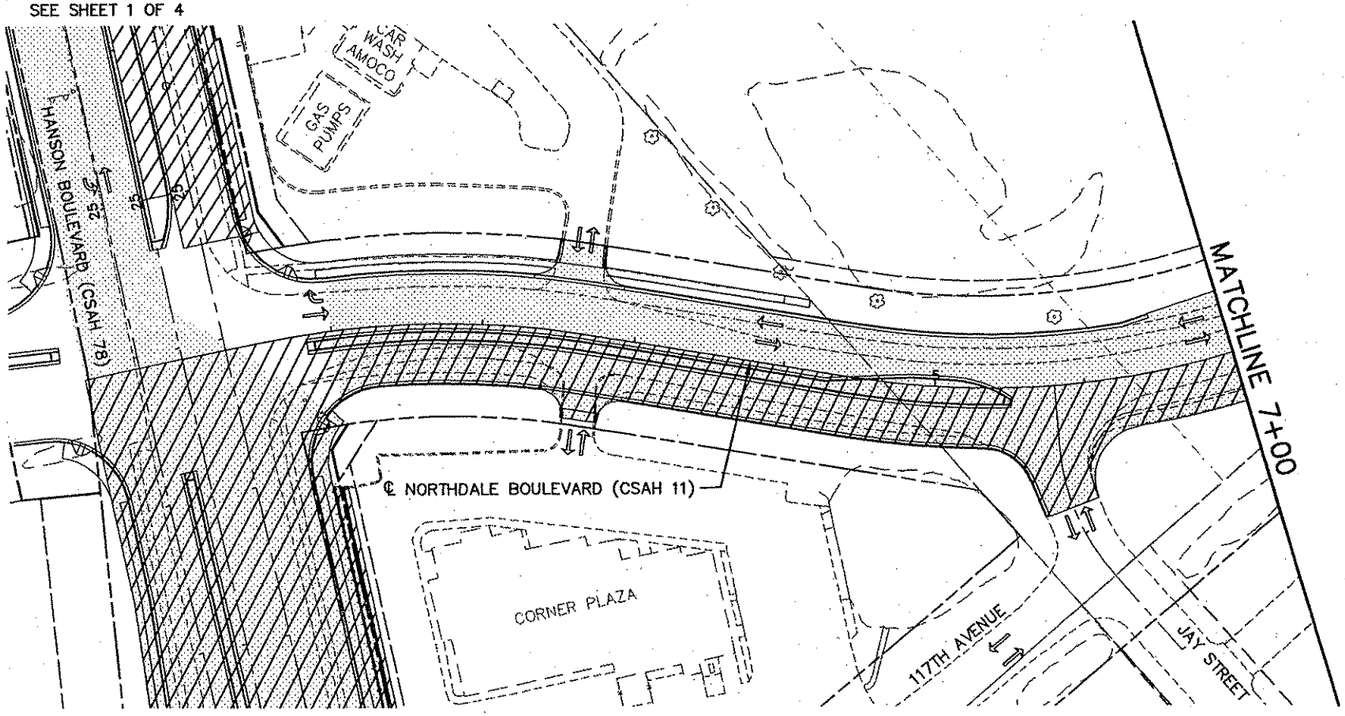

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 2 TRAFFIC

- EXISTING RAMP A/B REMAINS CLOSED.
- HANSON BOULEVARD, EXISTING RAMP A/B REMAINS CLOSED TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00 REMAINS CLOSED.
- SHIFT TWO-WAY TRAFFIC TO NEW WB NORTHDALE BOULEVARD AND CLOSE EXISTING EB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO-WAY TRAFFIC TO NEW SB HANSON BOULEVARD AND CLOSE EXISTING NB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 2 CONSTRUCTION

- COMPLETE BRIDGE NO. 02567 SUPERSTRUCTURE.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE EB NORTHDALE BOULEVARD.
- REMOVE NB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- REMOVE JAY STREET.
- CONSTRUCT EB NORTHDALE BOULEVARD.
- CONSTRUCT JAY STREET.
- CONSTRUCT NB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- REMOVE TEMPORARY PAVEMENT FOR BYPASS No. 1.
- COON CREEK BRIDGE WIDENING

STAGE 2 PHASE 2 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.

NOTE: TEMPORARY DRAINAGE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE WITHIN THE WORK ZONE. TEMPORARY PIPES, STRUCTURES, AND GRADING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL PAYMENT MADE FOR THIS WORK. ALL INLETS SHALL BE PROTECTED WITH PROPER SEDIMENT AND EROSION CONTROL MEASURES.

THE CONTRACTOR SHALL COORDINATE THE REMOVAL OF INPLACE DRAINAGE PIPES AND STRUCTURES WITH THE CONTRACTOR'S STAGING PLAN TO ENSURE POSITIVE DRAINAGE WITHIN THE PROJECT LIMITS. ALL STORM SEWER FACILITIES DESIGNATED ON THE PLAN FOR REMOVAL SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR. ABANDONING STRUCTURES AND PIPES IN PLACE SHALL NOT BE ALLOWED.

THE CONTRACTOR MAY ELECT TO EXTEND PIPE RUNS ACROSS AREAS DESIGNATED FOR CONSTRUCTION UNDER FUTURE STAGES/PHASES. THIS MAY BE ALLOWED UPON APPROVAL OF THE ENGINEER. SUCH CROSSINGS MAY BE REQUIRED TO OCCUR AT NIGHT WITH PROPER TEMPORARY LANE CLOSURES. UPON COMPLETION OF PIPE INSTALLATION, THE BITUMINIOUS DRIVING SURFACE SHALL BE ADEQUATELY RESTORED.

ALL PIPE OUTLETS SHALL BE STABILIZED WITH BLANKET OR STONE.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG25
DATE: JANUARY 8, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION STAGING PLAN
NORTHDALE BOULEVARD
STAGE 2 PHASE 2

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 105 / 681

PLOT DATE: Jan 17 12:24pm DISK FILE NAME: (16.1) R:\33889\338890042\PLAN-SHT\TRAF-CONT-STAGE\0 25.dwg

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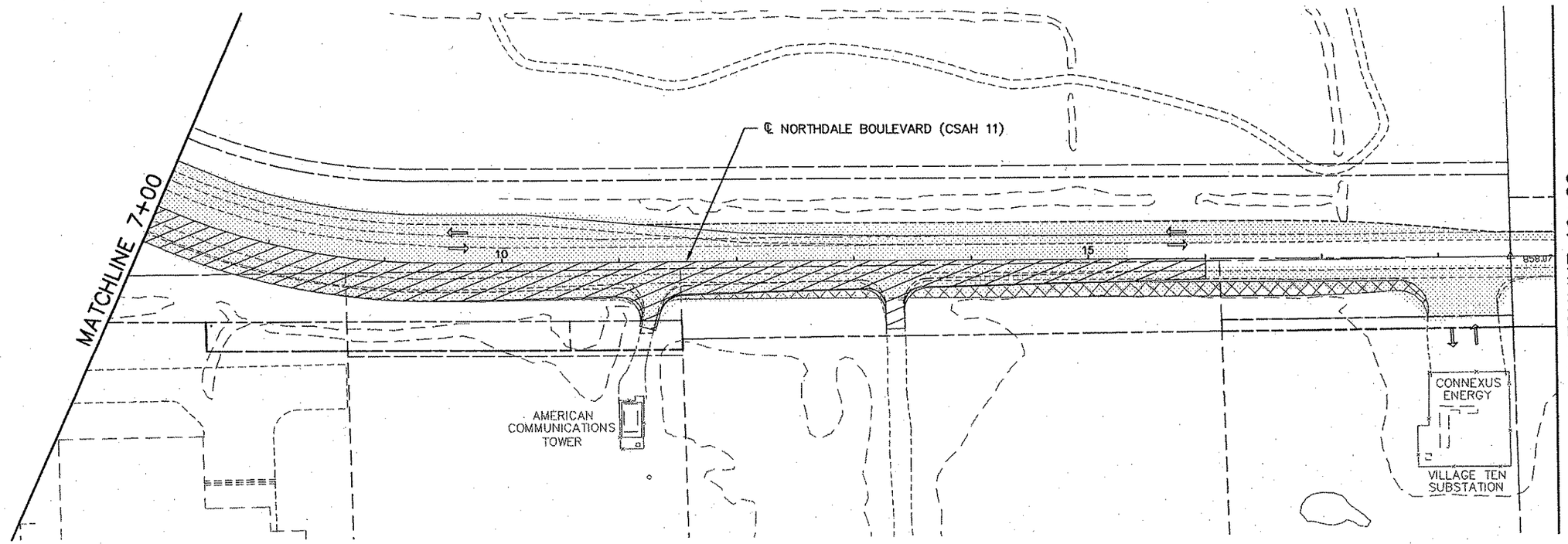

LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 2 TRAFFIC

- EXISTING RAMP A/B REMAINS CLOSED.
- HANSON BOULEVARD, EXISTING RAMP A/B REMAINS CLOSED TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00 REMAINS CLOSED.
- SHIFT TWO–WAY TRAFFIC TO NEW WB NORTHDALE BOULEVARD AND CLOSE EXISTING EB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO–WAY TRAFFIC TO NEW SB HANSON BOULEVARD AND CLOSE EXISTING NB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 2 CONSTRUCTION

- COMPLETE BRIDGE NO. 02567 SUPERSTRUCTURE.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE EB NORTHDALE BOULEVARD.
- REMOVE NB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- REMOVE JAY STREET.
- CONSTRUCT EB NORTHDALE BOULEVARD.
- CONSTRUCT JAY STREET.
- CONSTRUCT NB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- REMOVE TEMPORARY PAVEMENT FOR BYPASS No. 1.
- COON CREEK BRIDGE WIDENING

STAGE 2 PHASE 2 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.

NOTE: TEMPORARY DRAINAGE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE WITHIN THE WORK ZONE. TEMPORARY PIPES, STRUCTURES, AND GRADING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL PAYMENT MADE FOR THIS WORK. ALL INLETS SHALL BE PROTECTED WITH PROPER SEDIMENT AND EROSION CONTROL MEASURES.

THE CONTRACTOR SHALL COORDINATE THE REMOVAL OF INPLACE DRAINAGE PIPES AND STRUCTURES WITH THE CONTRACTOR'S STAGING PLAN TO ENSURE POSITIVE DRAINAGE WITHIN THE PROJECT LIMITS. ALL STORM SEWER FACILITIES DESIGNATED ON THE PLAN FOR REMOVAL SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR. ABANDONING STRUCTURES AND PIPES IN PLACE SHALL NOT BE ALLOWED.

THE CONTRACTOR MAY ELECT TO EXTEND PIPE RUNS ACROSS AREAS DESIGNATED FOR CONSTRUCTION UNDER FUTURE STAGES/PHASES. THIS MAY BE ALLOWED UPON APPROVAL OF THE ENGINEER. SUCH CROSSINGS MAY BE REQUIRED TO OCCUR AT NIGHT WITH PROPER TEMPORARY LANE CLOSURES. UPON COMPLETION OF PIPE INSTALLATION, THE BITUMINIOUS DRIVING SURFACE SHALL BE ADEQUATELY RESTORED.

ALL PIPE OUTLETS SHALL BE STABILIZED WITH BLANKET OR STONE.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LDM | DWG. NAME: CSTG26
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

NORTHDALE BOULEVARD

STAGE 2 PHASE 2

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 106 / 681

PLOT DATE: Jan 17 12:24pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\D 26.dwg

Xref'd Drawings
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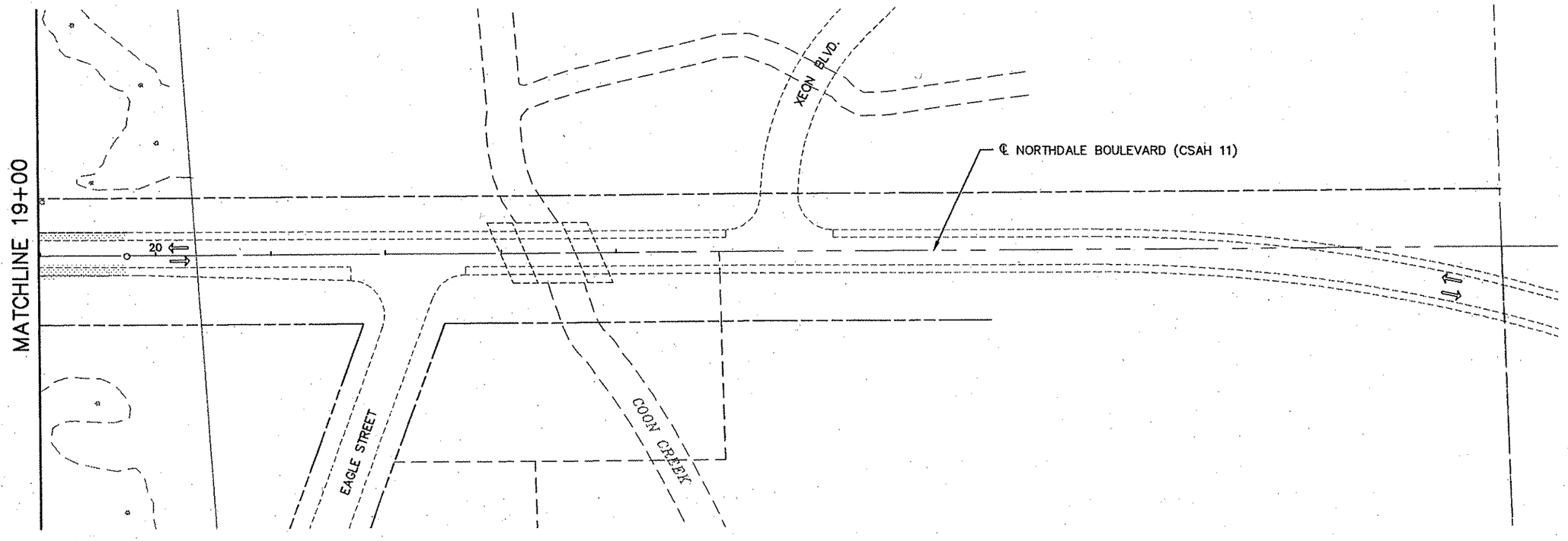


LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 2 TRAFFIC

- EXISTING RAMP A/B REMAINS CLOSED.
- HANSON BOULEVARD, EXISTING RAMP A/B REMAINS CLOSED TO NORTHDALE BOULEVARD. FOLLOW DETOUR.
- RIGHT SHOULDER TH 10/47 WB STA. 326+00 – 379+00 REMAINS CLOSED.
- SHIFT TWO–WAY TRAFFIC TO NEW WB NORTHDALE BOULEVARD AND CLOSE EXISTING EB NORTHDALE BOULEVARD EAST OF HANSON BOULEVARD.
- SHIFT TWO–WAY TRAFFIC TO NEW SB HANSON BOULEVARD AND CLOSE EXISTING NB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.

STAGE 2 PHASE 2 CONSTRUCTION

- COMPLETE BRIDGE NO. 02567 SUPERSTRUCTURE.
- CONSTRUCT M.S.E. RETAINING WALLS RAMP A AND B.
- CONSTRUCT RAMP A, B AND RIGHT SHOULDER TH 10/47 WB.
- CONSTRUCT HANSON BOULEVARD, RAMP A/B TO NORTHDALE BOULEVARD.
- REMOVE EB NORTHDALE BOULEVARD.
- REMOVE NB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- REMOVE JAY STREET.
- CONSTRUCT EB NORTHDALE BOULEVARD.
- CONSTRUCT JAY STREET.
- CONSTRUCT NB HANSON BOULEVARD NORTH OF NORTHDALE BOULEVARD.
- REMOVE TEMPORARY PAVEMENT FOR BYPASS No. 1.
- COON CREEK BRIDGE WIDENING

STAGE 2 PHASE 2 EROSION CONTROL

- RAPID STABILIZATION TO BE USED ON SLOPES WITHIN 200' OF WETLANDS AND AREAS THAT DISCHARGE WATER OFF ROW UNTIL PERMANENT EROSION CONTROL MEASURES ARE IN PLACE.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG27
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

NORTHDALE BOULEVARD

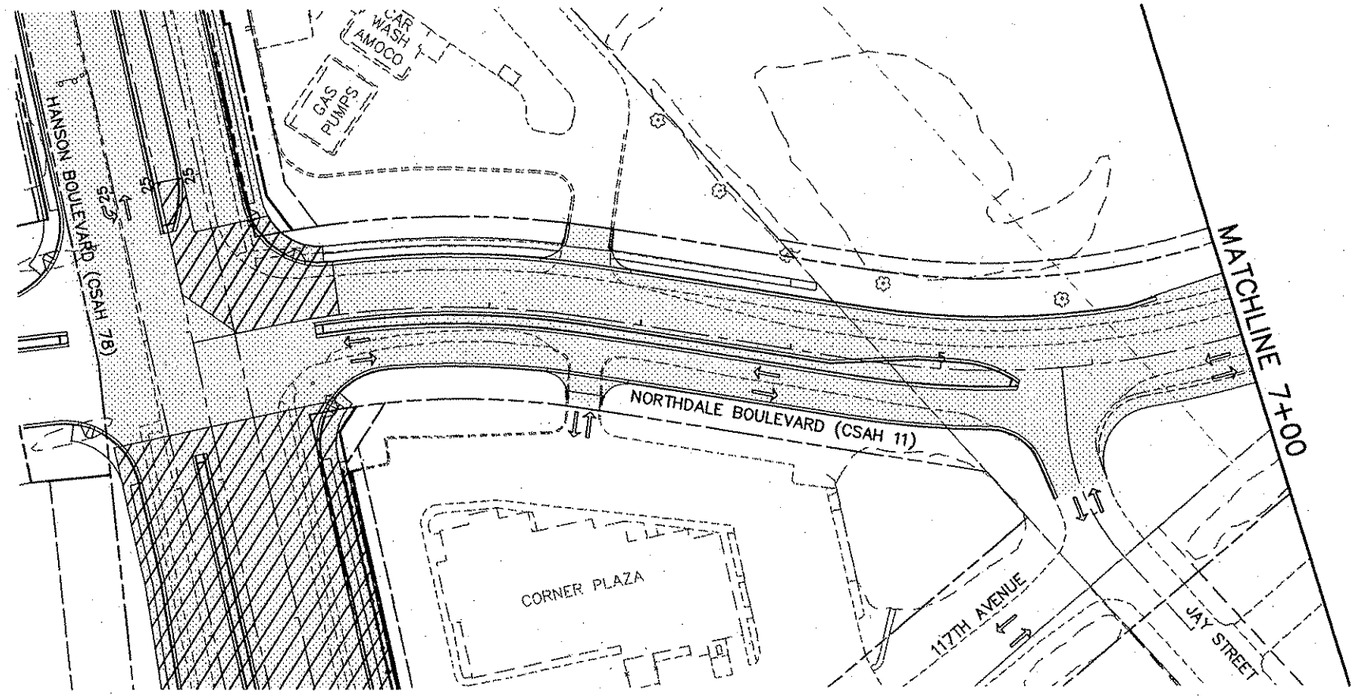
STAGE 2 PHASE 2

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 107 / 681

PLOT DATE: Jan 07 12:24pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\ 27.dwg

Xref's Drawings
rl-keel-sig
D-ESM
P2Apvtmar
-S2P2A
ISN-PCD
TG2P2A
TG2P2A_MASK
2A
ISN-
F-DW
ISN-ESI
x34bdr



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 2A TRAFFIC

- OPEN ONE LANE TO EB TRAFFIC ON NEW NORTHDALE BOULEVARD.
- SHIFT WB TRAFFIC ON NEW NORTHDALE BOULEVARD STA. 0+00–15+34, TO EB SIDE OF MEDIAN AND CONSTRUCT AREA IN HANSON AND NORTHDALE BOULEVARD INTERSECTION.

STAGE 2 PHASE 2A CONSTRUCTION

- CONSTRUCT AREA IN NE QUADRANT OF HANSON AND NORTHDALE BOULEVARD INTERSECTION NOT INCLUDED IN PREVIOUS STAGES/PHASES.
- REMOVE TEMPORARY PAVEMENT FOR BYPASS No. 2.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG28
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

HANSON BOULEVARD / NORTHDALE BOULEVARD

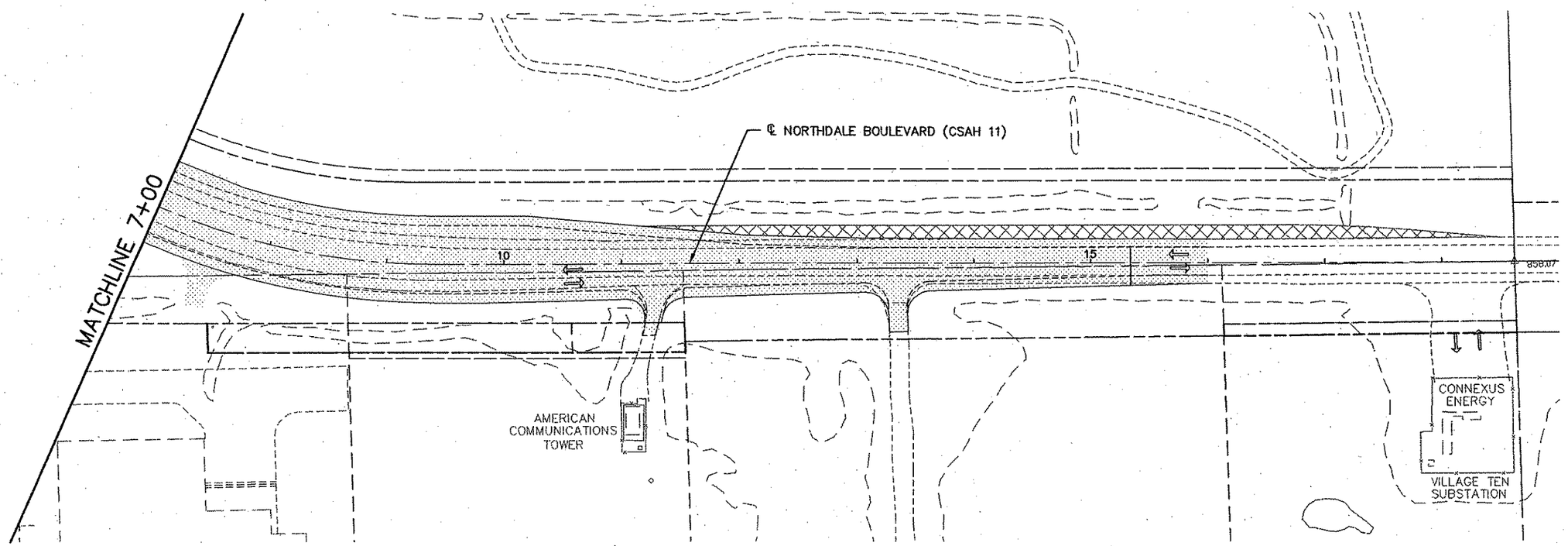
STAGE 2 PHASE 2A

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 108 / 681

PLOT DATE: Jan 07 12:24pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\

Xref'd Drawings
rl-keel-sig
D-ESM
NOTES2-2A
TG2P2A
TG2P2A_MASK
P2Apvtmar
-S2P2A
ISN-PCO
LEGEND
ISN-ET
ISN-AT
F-DWL
ISN-ESG
x34bdr



LEGEND

- REMOVALS
- MILL AND OVERLAY
- TEMPORARY CONSTRUCTION
- BRIDGE CONSTRUCTION
- PERMANENT CONSTRUCTION
- TRAFFIC FLOW DIRECTION

NOTES:

1.) REFER TO SITE PLAN SHEETS 109A–109E AND PERMANENT EROSION CONTROL PLAN SHEETS 255–263 FOR ADDITIONAL EROSION CONTROL INFORMATION.

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 2A TRAFFIC

- OPEN ONE LANE TO EB TRAFFIC ON NEW NORTHDALE BOULEVARD.
- SHIFT WB TRAFFIC ON NEW NORTHDALE BOULEVARD STA. 0+00–15+34, TO EB SIDE OF MEDIAN AND CONSTRUCT AREA IN HANSON AND NORTHDALE BOULEVARD INTERSECTION.

STAGE 2 PHASE 2A CONSTRUCTION

- CONSTRUCT AREA IN NE QUADRANT OF HANSON AND NORTHDALE BOULEVARD INTERSECTION NOT INCLUDED IN PREVIOUS STAGES/PHASES.
- REMOVE TEMPORARY PAVEMENT FOR BYPASS No. 2.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: CSTG29
DATE: JANUARY 8, 2006

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19881

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

NORTHDALE BOULEVARD

STAGE 2 PHASE 2A

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 109 / 681

PLOT DATE: Jan .07 12:24pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\ cstg29.dwg

Xref'd Drawings
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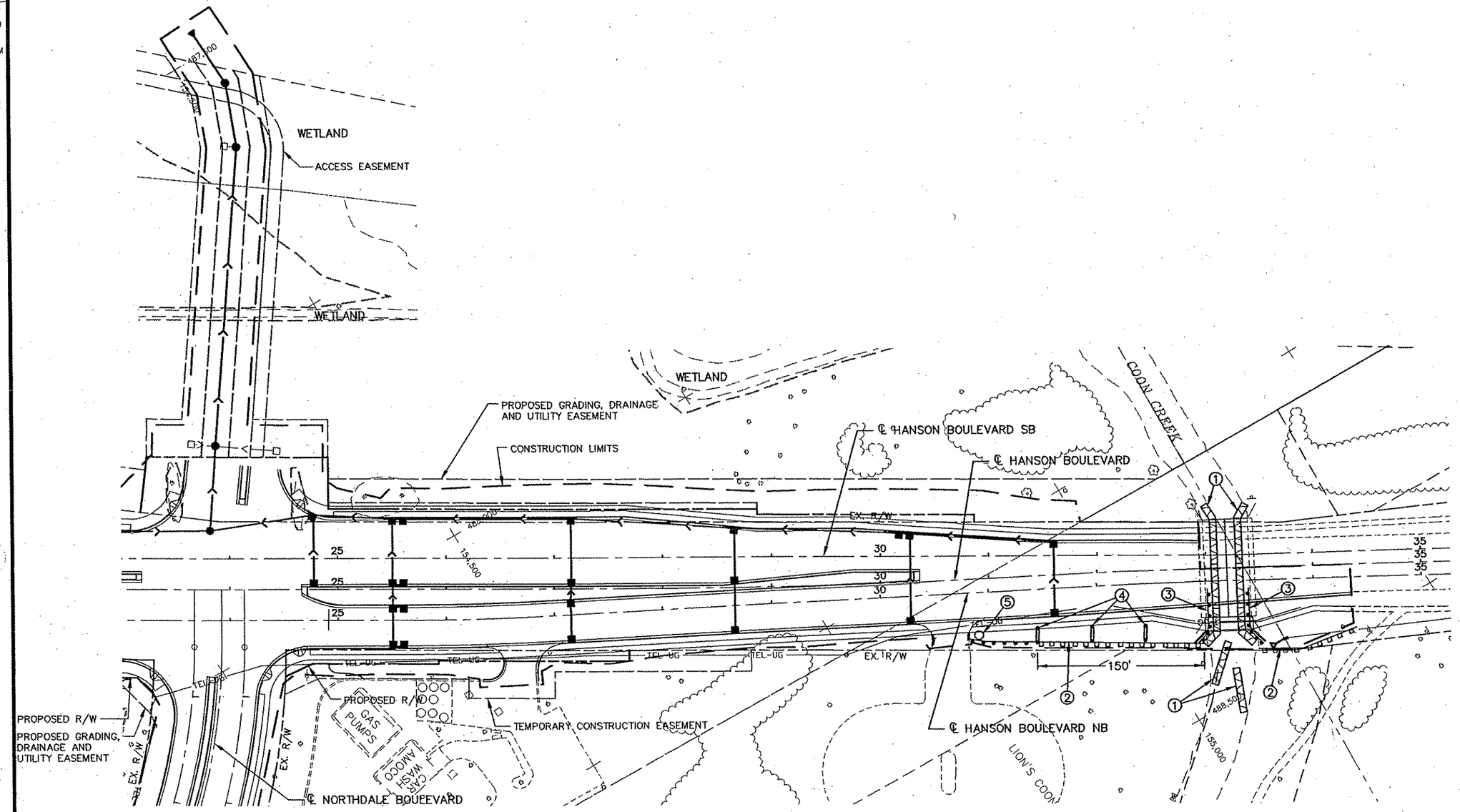
INSN-EROSION
INSN-WETL
INSN-PUT
INSN-CON-LIM
INSN-PCO
F
=
IN
INSN-
EF-DW
INSN-ES
2x34bdr



LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INPLACE CULVERT
- MACHINE SLICED SILT FENCE
- HEAVY DUTY SILT FENCE
- FILTER LOG TYPE STRAW BIOROLL
- SEDIMENT TRAP
- FLOATATION SILT CURTAIN (TYPE MOVING WATER)
- CATEGORY 3 EROSION CONTROL BLANKET
- WETLAND BOUNDARIES

NOTES

1. PLACE FLOATATION SILT CURTAIN, (TYPE MOVING WATER) INSTALL PER Mn/DOT STD. PLAN 5-297.405 PRIOR TO DEMOLITION TO PROTECT CREEK BANK, COORDINATE WITH COON CREEK WATERSHED DISTRICT.
2. PLACE HEAVY DUTY SILT FENCE PRIOR TO DEMOLITION.
3. PLACE MACHINE SLICED SILT FENCE BETWEEN FLOATION SILT CURTAIN AND FOUNDATION EXCAVATION.
4. PLACE FILTER LOGS FOR DEWATERING FLOW CONTROL.
5. SUGGESTED AREA FOR DEWATERING DISCHARGE.
6. SEED AND INSTALL CATEGORY 3 EROSION CONTROL BLANKET UPON COMPLETION OF STRUCTURE AND FINISHED GRADING.
7. FLOTATION SILT CURTAIN SHALL BE REMOVED FOLLOWING STABILIZATION OF WORK ZONE. REMOVAL SHALL BE IN A MANNER THAT WILL PREVENT SILT AND DEBRIS FROM ENTERING THE WATER.
8. REFER TO PERMANENT EROSION CONTROL PLANS, SHEETS 255-263 FOR ADDITIONAL PERIMETER EROSION CONTROL DEVICES.
9. ALL DEWATERING WILL REQUIRE A SITE PLAN.
10. CONTRACTOR SHALL PLACE EROSION CONTROL MEASURES AROUND STOCKPILES IN ACCORDANCE WITH NPDES PERMIT.

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: SW
CHKED. BY: SAW | DWG. NAME: TMPEC-HNSN2
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

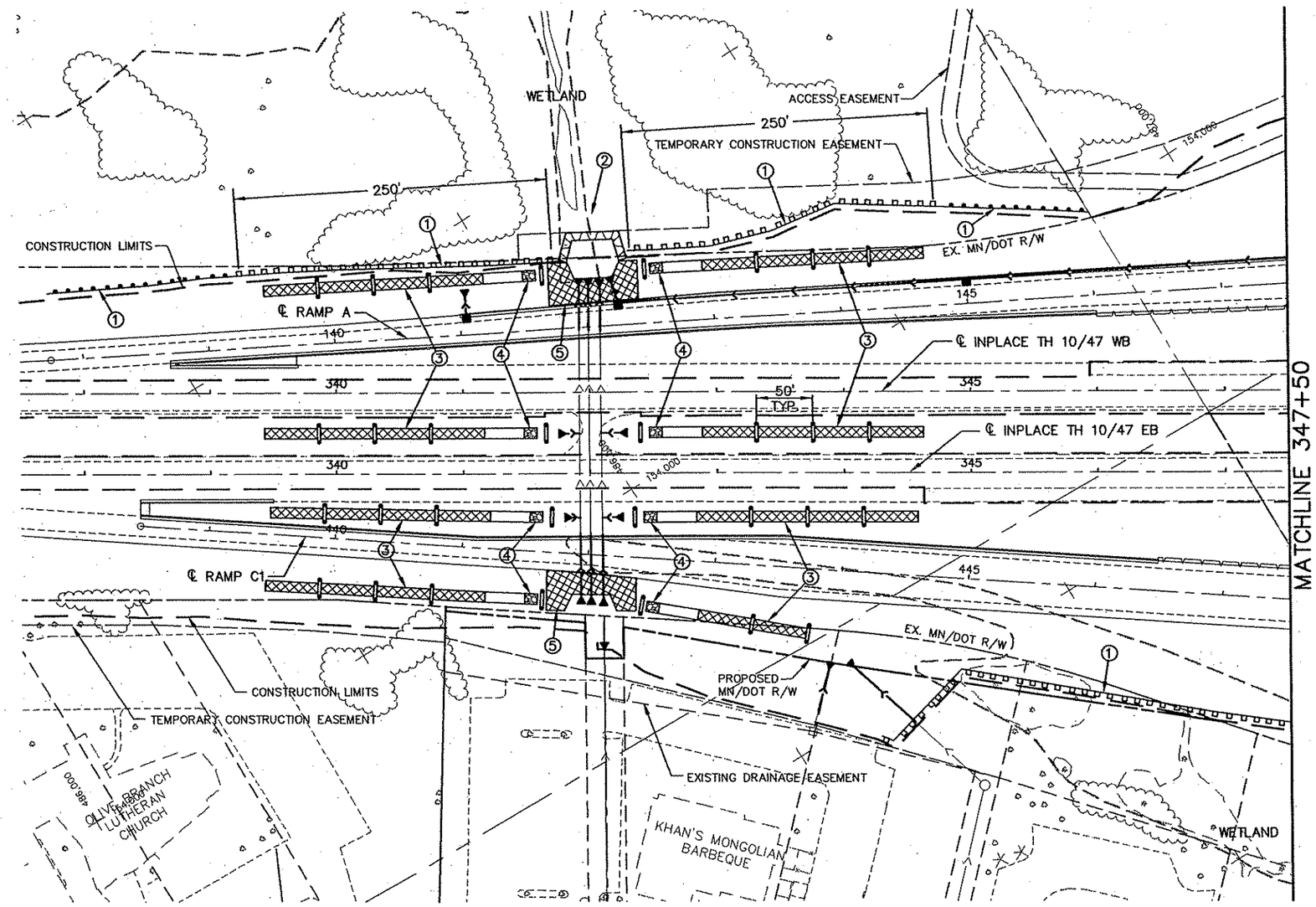
CONSTRUCTION STAGING PLAN

TEMPORARY EROSION CONTROL
HANSON BOULEVARD
STATION 23+00.00 TO STATION 34+34.41

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 109A / 681

PLOT DATE: Jan 07 10:19am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRO-CONST\042-TEC\hnsn02.dwg



LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INPLACE CULVERT
- MACHINE SLICED SILT FENCE
- HEAVY DUTY SILT FENCE
- FILTER LOG TYPE STRAW BIOROLL
- SEDIMENT TRAP
- FLOATATION SILT CURTAIN (TYPE MOVING WATER)
- CATEGORY 3 EROSION CONTROL BLANKET
- WETLAND BOUNDARIES

NOTES

1. PLACE MACHINE SLICED AND HEAVY DUTY SILT FENCE.
2. PLACE FLOATATION SILT CURTAIN.
3. UPON PLACEMENT OF NEW INLETS, PLACE CATEGORY 3 BLANKET AND FILTER LOGS IN DITCHES.
4. PLACE SEDIMENT TRAP.
5. WHEN CULVERT WORK IS COMPLETED SEED AND BLANKET AREA TO BE STABILIZED.
6. REFER TO PERMANENT EROSION CONTROL PLANS, SHEETS 255–263 FOR ADDITIONAL PERIMETER EROSION CONTROL DEVICES.
7. ALL DEWATERING WILL REQUIRE A SITE PLAN.
8. CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES AROUND STOCKPILES IN ACCORDANCE WITH NPDES PERMIT.

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: PMJ | DESIGN BY: SW
CHKED. BY: SAW | DWG. NAME: TMPEC–HWY2
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION STAGING PLAN

TEMPORARY EROSION CONTROL
HIGHWAY 10/47 AND RAMPS A–D
STATION 337+50.00 TO STATION 347+50.00

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 109B / 681

PLOT DATE: Jan 07 10:18am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-TEMPEC-HWY02.dwg

MATCHLINE 347+50

MATCHLINE 361+00

EX. MN/DOT R/W

TEMPORARY SEDIMENT BASIN

℄ CONNECTION A

℄ RAMP A

℄ CONNECTION B

℄ RAMP B2

℄ RAMP B1

℄ INPLACE TH 10/47 WB

℄ INPLACE TH 10/47 EB

℄ RAMP C2

℄ RAMP D

℄ RAMP C1

℄ CONNECTION C

℄ CONNECTION D

℄ HANSON BOULEVARD

TEMPORARY SEDIMENT BASIN

CONSTRUCTION LIMITS

TEMPORARY CONSTRUCTION EASEMENT

METRO MOLDED PARTS

OVERFLOW SWALE

WETLAND

SUPER AMERICA SERVICE

CAR WASH

ABRA AUTO BODY

SCALE 0 25 50 100 IN FEET

LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INPLACE CULVERT
- MACHINE SLICED SILT FENCE
- HEAVY DUTY SILT FENCE
- FILTER LOG TYPE STRAW BIOROLL
- SEDIMENT TRAP
- FLOATATION SILT CURTAIN (TYPE MOVING WATER)
- CATEGORY 3 EROSION CONTROL BLANKET
- WETLAND BOUNDARIES

NOTES

1. PLACE MACHINE SLICED AND HEAVY DUTY SILT FENCE.
2. DIG TEMPORARY SEDIMENT BASINS.
3. PLACE SEDIMENT TRAPS, FILTER LOGS AND BLANKET DRAINAGE WAYS.
4. STABILIZE INLETS AND OUTLETS BY SEEDING AND CATEGORY 3 BLANKET.
5. CULVERT STANDPIPE PROTECTION (D-RISER)
6. PROVIDE RAPID STABILIZATION OF PONDS WHEN FINISHED GRADING IS COMPLETED.
7. USE TEMPORARY SEED AND MULCH TO STABILIZE PONDS UNTIL PERMANENT SEED AND MULCH ARE PLACED.
8. CONSTRUCT PONDS OR PORTIONS THEREOF FOR SEDIMENTATION IN ACCORDANCE WITH NPDES PERMIT PRIOR TO ANY GROUND DISTURBING ACTIVITIES OR DEWATERING.
9. REFER TO PERMANENT EROSION CONTROL PLANS, SHEETS 255-263 FOR ADDITIONAL PERIMETER EROSION CONTROL DEVICES.
10. ALL DEWATERING WILL REQUIRE A SITE PLAN.
11. CONTRACTOR SHALL PLACE EROSION CONTROL MEASURES AROUND STOCKPILES IN ACCORDANCE WITH NPDES PERMIT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	12/28/06	REVISED PER Mn/DOT EROSION CONTROL UNIT

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: SW
CHKED. BY: SAW
DWG. NAME: TMPEC-HWY3
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

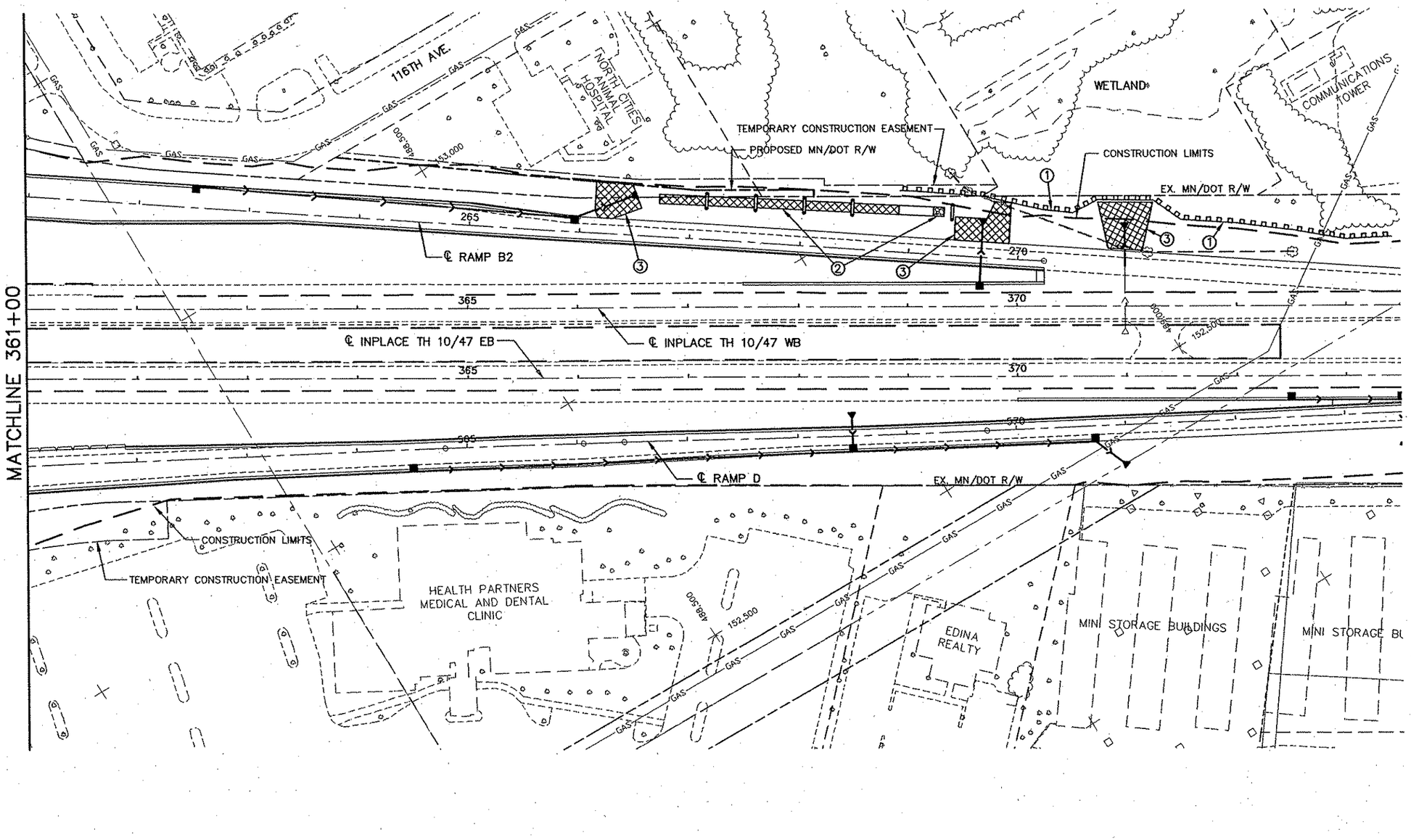
CONSTRUCTION STAGING PLAN

TEMPORARY EROSION CONTROL
HIGHWAY 10/47 AND RAMPS A-D
STATION 347+50.00 TO STATION 361+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 109C / 681

PLOT DATE: Jan 07 10:18am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-TEMPEC-HWY03.dwg



LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INPLACE CULVERT
- MACHINE SLICED SILT FENCE
- HEAVY DUTY SILT FENCE
- FILTER LOG TYPE STRAW BIOROLL
- SEDIMENT TRAP
- FLOATATION SILT CURTAIN (TYPE MOVING WATER)
- CATEGORY 3 EROSION CONTROL BLANKET
- WETLAND BOUNDARIES

NOTES

1. PLACE HEAVY DUTY SILT FENCE ALONG CONSTRUCTION LIMITS AT WETLAND.
2. PLACE SEDIMENT TRAP, FILTER LOGS AND BLANKET DRAINAGE WAY.
3. SEED AND BLANKET WHEN OUTLET STRUCTURES AND RIP-RAP HAVE BEEN COMPLETED.
4. REFER TO PERMANENT EROSION CONTROL PLANS, SHEETS 255-263 FOR ADDITIONAL PERIMETER EROSION CONTROL DEVICES.
5. ALL DEWATERING WILL REQUIRE A SITE PLAN.
6. CONTRACTOR SHALL PLACE EROSION CONTROL MEASURES AROUND STOCKPILES IN ACCORDANCE WITH NPDES PERMIT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: SW
CHKED. BY: SAW | DWG. NAME: TMPEC-HWY4
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

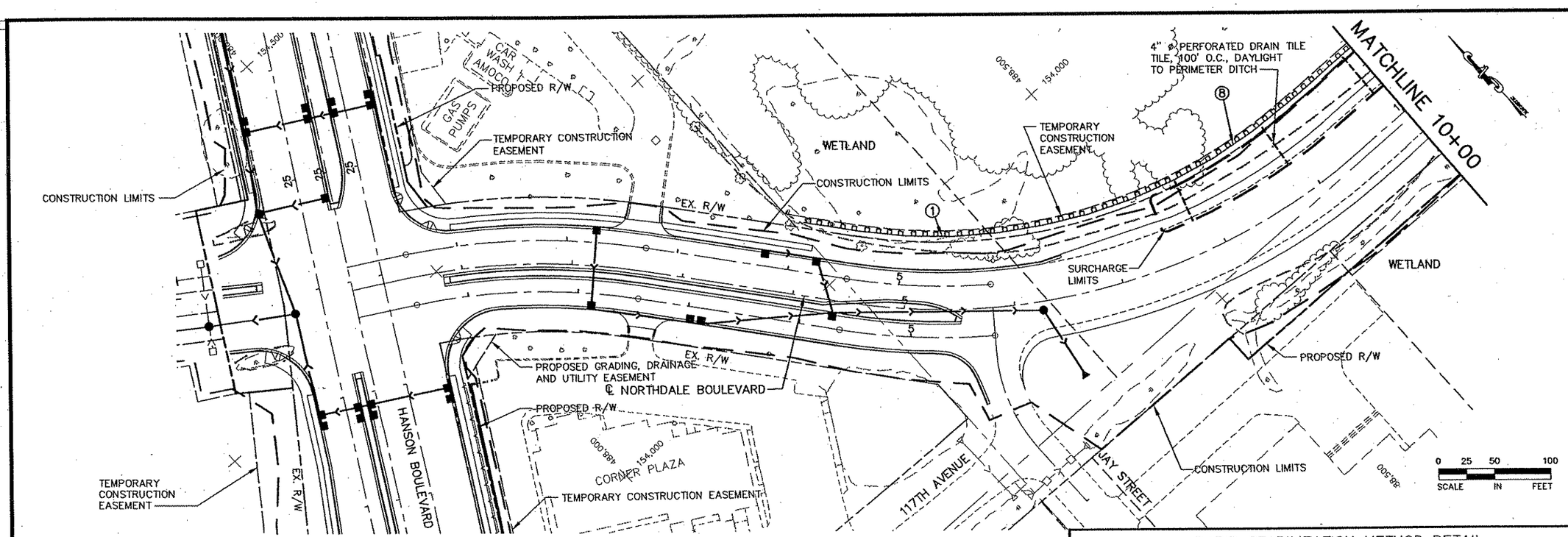
CONSTRUCTION STAGING PLAN

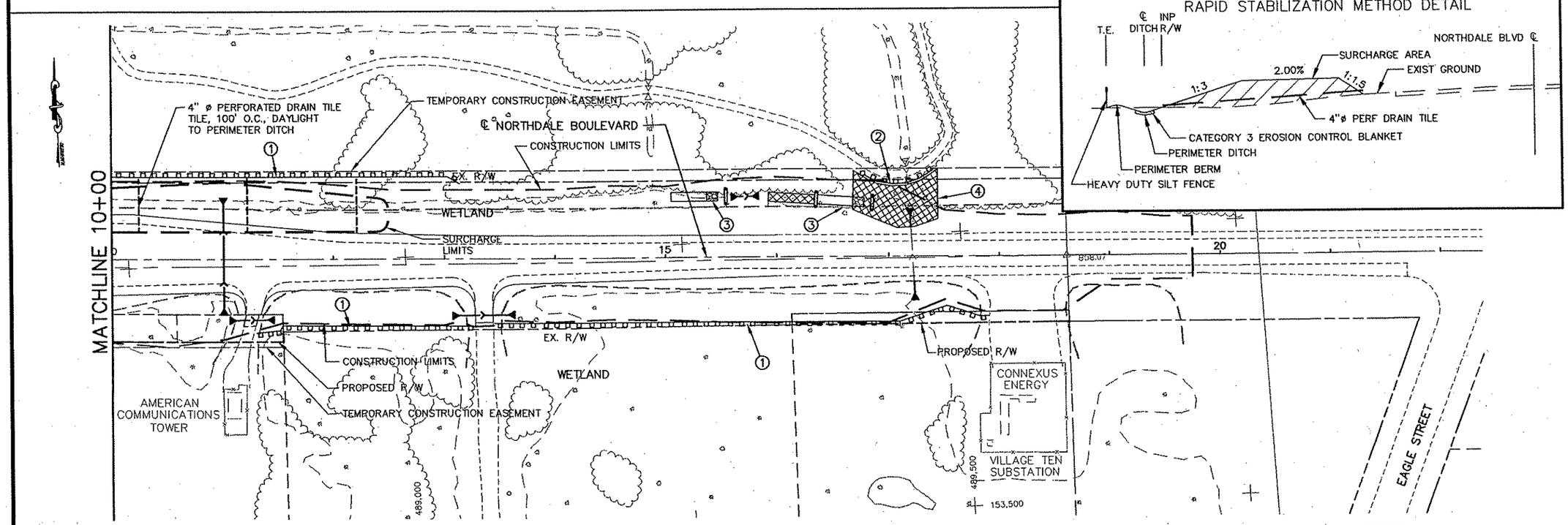
TEMPORARY EROSION CONTROL
HIGHWAY 10/47 AND RAMPS A-D
STATION 361+00.00 TO STATION 373+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 109D / 681

PLOT DATE: Jan 07 10:18am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-TEMPHWY04.dwg





LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INPLACE CULVERT
- MACHINE SLICED SILT FENCE
- HEAVY DUTY SILT FENCE
- FILTER LOG TYPE STRAW BIOROLL
- SEDIMENT TRAP
- FLOATATION SILT CURTAIN (TYPE MOVING WATER)
- CATEGORY 3 EROSION CONTROL BLANKET
- WETLAND BOUNDARIES

NOTES

1. PLACE HEAVY DUTY SILT FENCE.
2. PLACE HEAVY DUTY SILT FENCE ALONG EXISTING PATH SYSTEM.
3. PLACE SEDIMENT TRAPS, FILTER LOGS AND EROSION CONTROL BLANKET.
4. UPON COMPLETION OF PIPE WORK AND PLACEMENT OF RIP-RAP, SEED AND PLACE CATEGORY 3 EROSION CONTROL BLANKET.
5.) REFER TO PERMANENT EROSION CONTROL PLANS, SHEETS 255-263 FOR ADDITIONAL PERIMETER EROSION CONTROL DEVICES.
6.) ALL DEWATERING WILL REQUIRE A SITE PLAN.
7.) CONTRACTOR SHALL PLACE EROSION CONTROL MEASURES AROUND STOCKPILES IN ACCORDANCE WITH NPDES PERMIT.

SURCHARGE NOTES

8. PLACE HEAVY DUTY SILT FENCE.
9.) PLACE SURCHARGE AND PERFORATED DRAIN TILE.
10.) CONSTRUCT PERIMETER BERM AND DITCH.
11.) PLACE CATEGORY 3 BLANKET IN DITCH BOTTOM AND RAPID STABILIZATION OF BERM.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: SW
CHKED. BY: SAW
DWG. NAME: TMPEC-NDALE
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION STAGING PLAN
TEMPORARY EROSION CONTROL
NORTHDALE BOULEVARD
STATION 0+00.00 TO STATION 19+75.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 109E / 681

PLOT DATE: Jan 07 10:18am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-TEMPEC-NDALE01.dwg

Xref'd Drawings
rl-keel-sig
2-RAMPC-DECL-ONTY
sn-wells
ISN-PCO
ISN-ETO
ISN-ESU
ISN-ALI
F-DWG-BDR
3x34bdr

HORIZONTAL AND VERTICAL CONTROL

HORIZONTAL DATUM: IS THE ANOKA COUNTY COORDINATES NAD83 (1996) – US FEET
VERTICAL DATUM: NAVD 88 – US FEET

BENCH MARK – MNDOT GEODETIC DATATBASE STATION C257
(LOCATED IN SW CORNER OF INTERCHANGE
NEAR OLIVE BRANCH LUTHERAN CHURCH)
ELEV = 859.10

℄ HANSON BOULEVARD SB (CSAH 11) (HNBSB)

℄ HANSON BOULEVARD (CSAH 11) (HNBCL)

℄ HANSON BOULEVARD NB (CSAH 11) (HNBNB)

℄ INPLACE HANSON BOULEVARD SB (CSAH 78) (HNBSB)

℄ INPLACE HANSON BOULEVARD (CSAH 78) (HNBCL)

℄ INPLACE HANSON BOULEVARD NB (CSAH 78) (HNBNB)

HNBSB-1
1051
1001
HNBCL-1
1054
1052
1050
1026
HNBNB-1
1027
1002
1025
1000
1029
1004

STA AHEAD: 5+88.61
STA BACK: 6+00.81

STA AHEAD: 5+58.70
STA BACK: 5+46.50

CSAH78

NORTHDALE BLVD. (CSAH 11)

ROBINSON DRIVE

CSAH11

HNBSB STA. 14+05.75 =
H10EB STA. 352+89.84

HNBCL STA. 7+53.09 =
℄ SOUTH NORTHDALE BLVD. (CSAH 11)

HNBNB STA. 14+04.61 =
H10EB STA. 353+47.85

HNBCL STA. 7+45.70 =
℄ ROBINSON DRIVE

HNBSB STA. 14+69.77 =
H10WB STA. 352+88.57

HNBNB STA. 14+68.62 =
H10WB STA. 353+46.58

RETAINING WALL 6

RETAINING WALL 7

N 153,811.718
E 486,918.454

N 153,767.706
E 488,257.252

487,000
154,000
487,500
153,000
488,000
154,000

CSAH11

CSAH78

NORTHDALE BLVD (CSAH11)

0 50 100 200
SCALE IN FEET

SEE RETAINING WALL PLAN SHEETS FOR RETAINING WALL ALIGNMENTS

1 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: ALN01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

ALIGNMENT PLAN

ALIGNMENT LAYOUT
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 110 / 681

PLOT DATE: Jan 07 9:43am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ALI

Xref'd Drawings
hnsn-walls
HNSN-ROD
HNSN-STO
HNSN-SSU
HNSN-ALI
REF-DWG-BDR
22x34bdr

℄ HANSON BOULEVARD SB (CSAH 11) (HNBSB)
℄ HANSON BOULEVARD (CSAH 11) (HNBCL)
℄ HANSON BOULEVARD NB (CSAH 11) (HNBNB)

HNBCL STA. 23+92.36 = NNDB STA. 0+00.00
HNBCL STA. 23+67.36 = NNDBEB STA. 0+00.00
HNBCL STA. 24+13.36 = NNDBWB STA. 0+00.00

CSAH11
CSAH78
(CSAH11)

RETAINING WALL 7

℄ NORTHDALE BOULEVARD EB (NNDBEB)
℄ NORTHDALE BOULEVARD WB (NNDBWB)
℄ NORTHDALE BOULEVARD (CSAH 11)(NNDB)

℄ INPLACE HANSON BOULEVARD NB (CSAH 78) (HNBNB)
℄ INPLACE HANSON BOULEVARD (CSAH 78) (HNBCL)
℄ INPLACE HANSON BOULEVARD SB (CSAH 78) (HNBSB)

STA AHEAD: 33+49.56
STA BACK: 33+45.93
STA AHEAD: 32+94.26
STA BACK: 32+85.04

JAY ST.

NNDB STA. 5+79.73 = JAY STREET STA. 0+00.00
NNDBWB STA. 5+82.60 = ℄ JAY STREET
NNDBEB STA. 5+76.31 = ℄ JAY STREET

N 153,767.708
E 488,257.252

487,500 153,000
488,500 153,500
489,000 154,500

SCALE 0 50 100 200 IN FEET

SEE RETAINING WALL PLAN SHEETS FOR RETAINING WALL ALIGNMENTS

PLOT DATE: Jan 07 9:43am DISK FILE NAME: (16.1) R:\33889\338890421\PLAN-SHT\PRD-CONST\042-ALN

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: ALN02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
ALIGNMENT PLAN
ALIGNMENT LAYOUT
HANSON BOULEVARD
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 111 / 681

Xref Drawings
ISN-ETO
ISN-PCO
ISN-SSU
ISN-ACO
F-DWG-BDR
x34bdr

℄ HANSON BOULEVARD NB (CSAH 11) (HNBNB)
℄ HANSON BOULEVARD (CSAH 11) (HNBCL)
℄ HANSON BOULEVARD SB (CSAH 11) (HNBSB)

℄ INPLACE TH10/47 WB (H10WB)
℄ INPLACE TH 10/47 EB (H10EB)
℄ RAMP A (HNBRA)
℄ RAMP C1 (HNBRC1)
℄ RAMP C2 (HNBRC2)
℄ CONNECTION A (HNBCA)
℄ CONNECTION C (HNBCC)

RAMP A STA. 136+62.68 =
A PT. 22.0' LT. WB TH10/47 STA. 336+62.46

RAMP C STA. 438+45.47 =
A PT. 41.0' RT. HWY10/47 STA. 338+44.10

HNBRC2 STA. 454+64.19 =
A PT. 0' LT. HNBNB STA. 15+35.16

HNBCA STA. 652+90.74 =
A PT. 30' LT. HNBSB STA. 16+58.87

HNBCA STA. 650+73.65 =
A PT. 18' LT. HNBRA STA. 150+73.65

HNBRC2 STA. 450+52.40 =
A PT. 6' LT. HNBRC1 STA. 450+52.40

HNBCC STA. 850+52.40 =
A PT. 12' RT. HNBRC1 STA. 450+52.40

HNBCC STA. 853+10.75 =
A PT. 18' LT. HNBSB STA. 12+08.16

HNBRA STA. 154+60.05 =
A PT. 24' LT. HNBNB STA. 13+37.33

N 153,811.718
E 486,918.454

N 153,850.104
E 485,599.302

HNBRA-1
HNBRA-2
HNBCA-1
HNBRC2-1
HNBRC2-2
HNBCC-1

RETAINING WALL 1A
RETAINING WALL 1B
RETAINING WALL 3A
RETAINING WALL 3B

1075/1077 1076 1079
1080 1081
1090 1091 1092 1094/1095
1151 1152
1170/1172 1171 1174
1175 1176 1177/1178
1190 1191 1192 1194/1195
1083/1084

325 330 335 340 345 350 355
440 445 450 455
652 852
150 152
140 145
15 15 15
20 20 20
10 10 10

485,000 155,000
485,500 153,500
485,000 154,500

NORTHDALE BLVD
(CSAH11)
CSAH11
ROBINSON DRIVE
CSAH78

SCALE IN FEET 0 50 100 200

SEE RETAINING WALL PLAN SHEETS FOR RETAINING WALL ALIGNMENTS

3 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: ALN03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

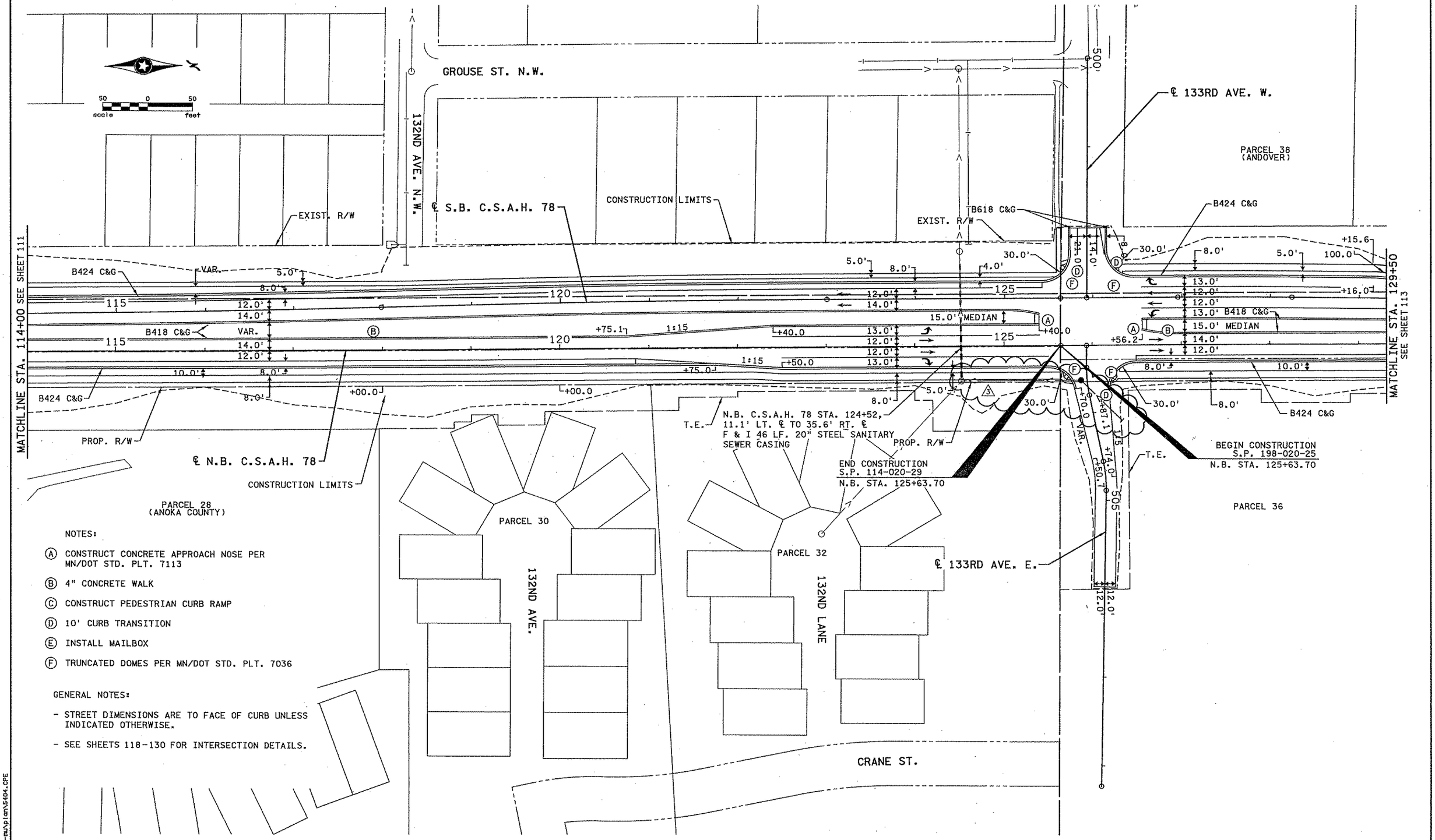
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
ALIGNMENT PLAN
ALIGNMENT LAYOUT
HIGHWAY 10/47
RAMP A AND RAMP C

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 112 / 681

PLOT DATE: Jan J7 9:43am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ALN



NOTES:

Ⓐ CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

Ⓑ 4" CONCRETE WALK

Ⓒ CONSTRUCT PEDESTRIAN CURB RAMP

Ⓓ 10' CURB TRANSITION

Ⓔ INSTALL MAILBOX

Ⓕ TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- SEE SHEETS 118-130 FOR INTERSECTION DETAILS.

NO	DATE	BY	CKD	APPR	REVISION
4	6/6/07	JJD	JJD	CMT	ADDENDUM #1: WATERMAIN AND SANITARY CONSTRUCTION FOR PD SITE
2	2/17/07	GMP	CMT	CMT	REMOVED RETAINING WALL NB CSAH 78 STA 118+00 TO 120+00
1	8/10/06	JJD	CMT	CMT	REVISED SANITARY AND WATERMAIN CONSTRUCTION

...\5404\hl-mu\plan\5404.CPE

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CHRIS M. TRBOYEVICH

Date 6/14/07 License # 41635

STATE AID PROJECT NO. 02-678-16

STATE PROJECT NO. X

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY D.FITCHORN

DESIGNED BY C.TRBOYEVICH

CHECKED BY M. TURNER

COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

CONSTRUCTION PLAN

C.S.A.H. 78

SHEET 112 OF 400

4123138 PW
6/14/2007
Projects\5404\hl-mu\plan\5404.CPE

℄ HANSON BOULEVARD NB (CSAH 11) (HNBNB)

RETAINING WALL 7

℄ HANSON BOULEVARD (CSAH 11) (HNBCL)

℄ HANSON BOULEVARD SB (CSAH 11) (HNBSB)

HNBRD STA. 551+79.41 =
A PT. 24' RT. HNBSB STA. 15+37.34

HNBCB STA. 753+37.39 =
A PT. 0' RT. HNBNB STA. 16+33.80

℄ CONNECTION B (HNBCB)

HNBCB STA. 755+88.18 =
A PT. 12' LT. HNBRB2 STA. 255+88.18

℄ RAMP B2 (HNBRB2)

RAMP B2 STA. 270+23.79 =
A PT. 41' LT. WB TH10/47 STA. 370+25.18

℄ INPLACE TH 10/47 WB (H10WB)

RETAINING WALL 2A

HNBRB1 STA. 255+88.18 =
A PT. 6' RT. HNBRB2 STA. 255+88.18

RETAINING WALL 2B

℄ RAMP B1 (HNBRB1)

RETAINING WALL 4B

RETAINING WALL 4A

℄ INPLACE TH 10/47 EB (H10EB)

℄ RAMP D (HNBRD)

HNBCD STA. 955+61.82 =
A PT. 18' RT. HNBRD STA. 555+61.82

℄ CONNECTION D (HNBCD)

HNBCD STA. 953+49.14 =
A PT. 30' RT. HNBNB STA. 12+22.50

HNBRB1 STA. 251+69.40 =
A PT. 0' RT. HNBSB STA. 13+49.43

RETAINING WALL 6

RAMP D STA. 578+04.92 =
A PT. 22.0' RT. TH10/47 STA. 378+04.38

NORTHDALE BLVD (CSAH11)

ROBINSON DRIVE

CSAH11

CSAH78

SCALE IN FEET 0 50 100 200

SEE RETAINING WALL PLAN SHEETS FOR RETAINING WALL ALIGNMENTS

4 OF 10

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: ALN04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

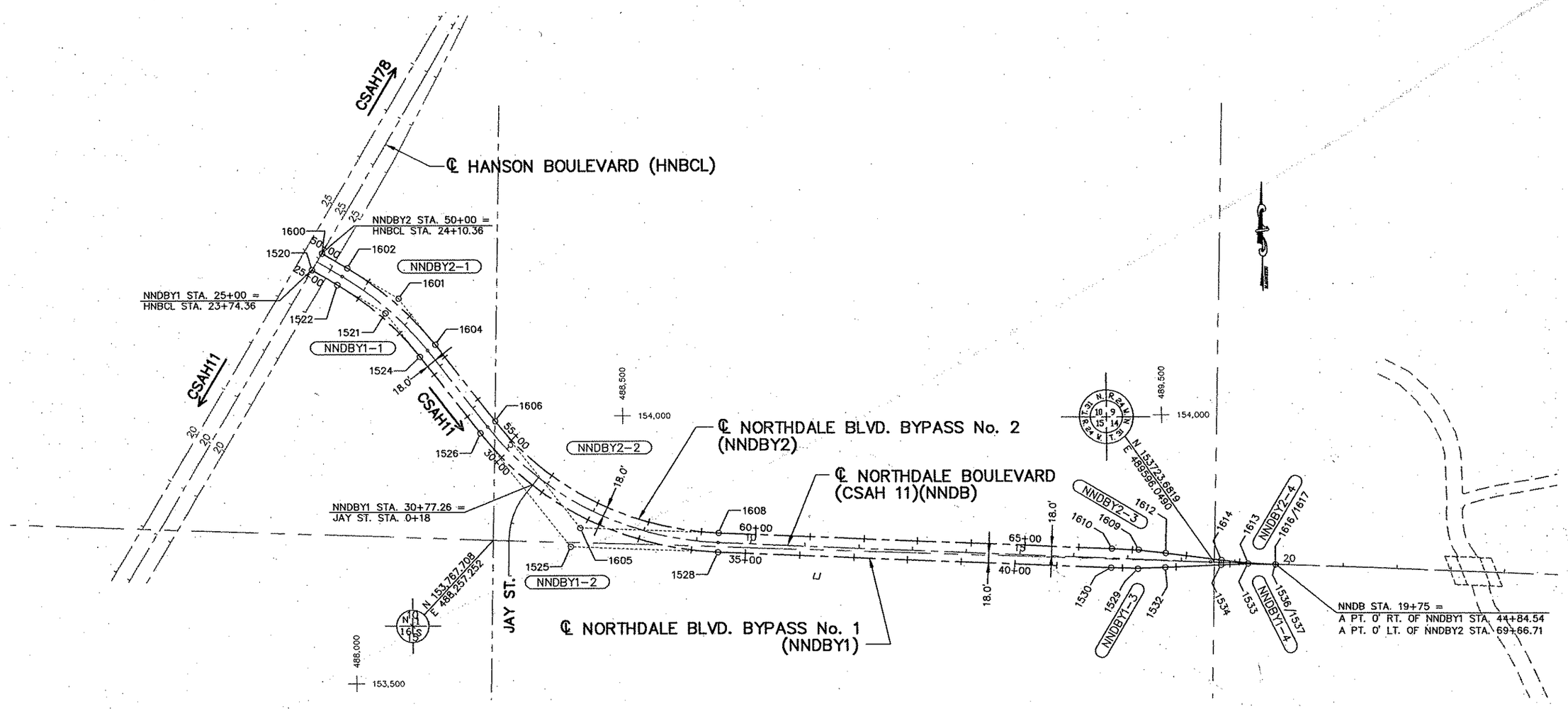
TH 10/HANSON BOULEVARD INTERCHANGE
ALIGNMENT PLAN
ALIGNMENT LAYOUT
HIGHWAY 10/47
RAMP B AND RAMP D

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 113 / 681

PLOT DATE: Jan 17 9:43am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ALN

Xref'd Drawings
CSTG2PF
CSTG2PF
HNSN-RDO
HNSN-STO
HNSN-SSU
HNSN-ALI
REF-DWG-BDR
22x34b



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042	
DRAWN BY: IKR	DESIGN BY: JRM
CHKED. BY: SAW	DWG. NAME: ALN05
DATE: JANUARY 8, 2007	

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

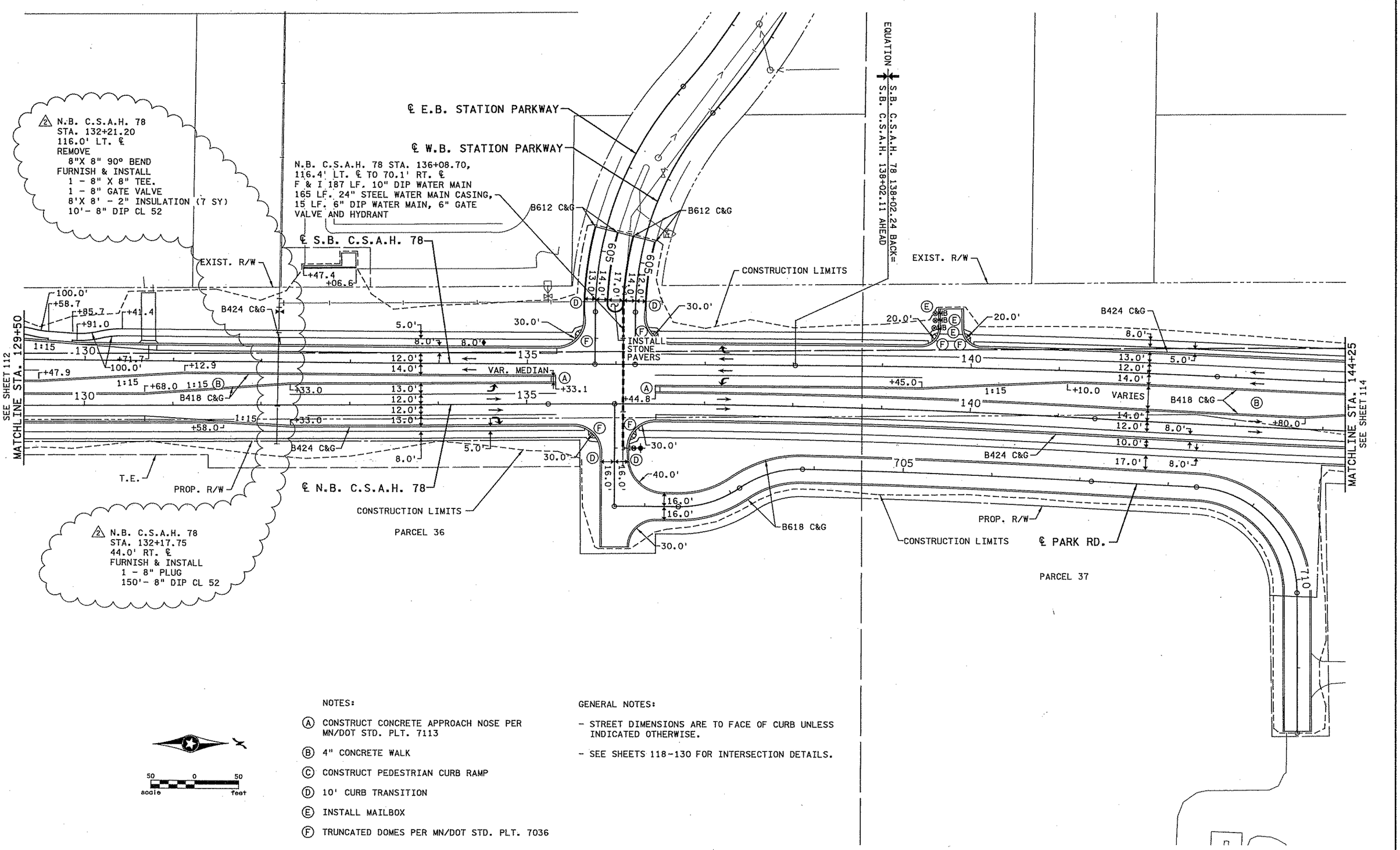
ALIGNMENT PLAN

ALIGNMENT LAYOUT
NORTHDALE BOULEVARD BYPASS No. 1 and No. 2
FOR STAGING AND TRAFFIC CONTROL

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO: 114 / 681

PLOT DATE: Jan 17 9:43am DISK: FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ALN



NOTES:

(A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113

(B) 4" CONCRETE WALK

(C) CONSTRUCT PEDESTRIAN CURB RAMP

(D) 10' CURB TRANSITION

(E) INSTALL MAILBOX

(F) TRUNCATED DOMES PER MN/DOT STD. PLT. 7036

GENERAL NOTES:

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.
- SEE SHEETS 118-130 FOR INTERSECTION DETAILS.

NO	DATE	BY	CKD	APPR	REVISION
1	8/10/06	JJD	CMT	CMT	REVISED SANITARY AND WATERMAIN CONSTRUCTION
2	6/6/07	JJD	JJD	CMT	ADDENDUM #1: WATERMAIN AND SANITARY CONSTRUCTION FOR PD SITE

...\5404\hl-mu\plan\5404.CPF

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: CHRIS M. TRBOYEVICH
Date 6/14/07 License # 41635

STATE AID PROJECT NO.	02-678-16
STATE PROJECT NO.	X
COUNTY PROJECT NO.	X
CITY PROJECT NO.	X
DRAWN BY	D.FITCHORN
DESIGNED BY	C.TRBOYEVICH
CHECKED BY	M. TURNER
COMM. NO.	0055404

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
CONSTRUCTION PLAN
C.S.A.H. 78

SHEET 113 OF 400

4:23:38 PM
6/14/2007
H:\projects\5404\hl-mu\plan\5404.CPF

℄ HANSON BOULEVARD (C.S.A.H. 11) (HNBCL)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1000	POT	0+00.00							152,172.744	486,882.790	1° 14' 48"
	1001	PI	3+53.64							152,526.302	486,890.482	PI
(HNBCL-1)	1002	PC	1+39.15		29°22'05" RT	07°00'00"	818.510	214.487	419.542	152,311.866	486,885.816	
	1003	RP								152,294.060	487,704.133	30° 36' 52"
	1004	PT	5+58.70							152,710.893	486,999.712	
	1005	PI	29+55.88							154,773.938	488,220.498	PI
(HNBCL-2)	1006	PC	27+95.14		03°12'50" LT	01°00'00"	5729.578	160.736	321.389	154,635.606	488,138.642	
	1007	RP								157,553.446	483,207.692	27° 24' 02"
	1008	PRC	31+16.53							154,916.641	488,294.471	
	1009	PI	32+05.40							154,995.543	488,335.371	PI
(HNBCL-3)	1010	PRC	31+16.53		01°46'38" RT	01°00'00"	5729.578	88.872	177.730	154,916.641	488,294.471	
	1011	RP								152,279.836	493,381.250	29° 10' 41"
	1012	PT	32+94.26							155,073.138	488,378.698	
	1013	POT	35+41.88							155,289.342	488,499.420	PI

℄ HANSON BOULEVARD NORTHBOUND (C.S.A.H. 11) (HNBNB)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1025	POT	0+00.00							152,172.284	486,903.946	1° 14' 48"
	1026	PI	3+32.11							152,504.318	486,911.170	PI
(HNBNB-1)	1027	PC	1+39.15		29°22'05" RT	07°46'52"	736.353	192.959	377.431	152,311.406	486,906.973	
	1028	RP								152,295.386	487,643.152	30° 36' 52"
	1029	PT	5+16.58							152,670.381	487,009.436	
			EQUATION:	STA. BACK: 5+46.50=STA. AHEAD: 5+58.70								
	1030	PI	26+18.46							154,468.780	488,073.622	PI
(HNBNB-2)	1031	PC	25+69.96		02°53'18" LT	02°58'41"	1923.860	48.503	96.986	154,427.038	488,048.921	
	1032	RP								155,406.782	486,393.222	27° 43' 34"
	1033	PT	26+66.94							154,511.714	488,096.188	
	1034	PI	32+60.73							155,037.322	488,372.444	PI
(HNBNB-3)	1035	PC	32+36.35		01°27'07" RT	02°58'41"	1923.860	24.375	48.748	155,015.746	488,361.103	
	1036	RP								154,120.678	490,064.068	29° 10' 41"
	1037	PT	32+85.10							155,058.605	488,384.327	
			EQUATION:	STA. BACK: 32+95.04=STA. AHEAD: 32+94.26								
	1038	POT	35+41.88							155,283.491	488,509.898	PI

℄ HANSON BOULEVARD SOUTHBOUND (C.S.A.H. 11) (HNBSB)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1050	POT	0+00.00							152,173.205	486,861.633	1° 14' 48"
	1051	PI	3+75.17							152,548.286	486,869.794	PI
(HNBSB-1)	1052	PC	1+39.15		29°22'05" RT	06°21'41"	900.667	236.016	461.652	152,312.326	486,864.660	
	1053	RP								152,292.732	487,765.114	30° 36' 52"
			EQUATION:	STA. BACK: 6+00.81=STA. AHEAD: 5+88.61								
	1054	PT	5+88.61							152,751.405	486,989.988	
	1055	PI	33+24.81							155,106.214	488,383.423	PI
(HNBSB-2)	1056	PC	33+00.69		01°26'12" LT	02°58'41"	1923.859	24.120	48.237	155,085.456	488,371.140	
	1057	RP								156,065.200	486,715.442	29° 10' 41"
			EQUATION:	STA. BACK: 33+48.93=STA. AHEAD: 33+49.56								
	1058	PT	33+49.56							155,127.274	488,395.182	
	1059	POT	35+41.88							155,295.192	488,488.944	PI

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: ALNTAB01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
ALIGNMENT PLAN
ALIGNMENT TABULATION
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 115 / 681

T:\Roads\Drawings\x34bdr
PLOT DATE: Jan 07 9:43am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ALN

℄ RAMP A (HNBRA)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1075	PI	136+62.68	= A PT. 22' LT. WB 10/47 STA. 336+62.46		-				154,384.146	486,067.553	120° 36' 18"
	1076	PI	137+18.62							154,355.666	486,115.702	PI
(HNBRA-1)	1077	PC	136+62.68		02°14'15" LT	02°00'00"	2864.789	55.941	111.868	154,384.146	486,067.553	
	1078	RP								156,849.866	487,526.060	118° 22' 03"
	1079	PT	137+74.55							154,329.087	486,164.926	
	1080	PI	153+23.25							153,593.260	487,527.654	PI
(HNBRA-2)	1081	PC	150+73.65	= A PT. 18' RT. CONN A STA. 650+73.65	92°14'49" RT	23°52'24"	240.000	249.602	386.403	153,711.852	487,308.026	
	1082	RP								153,500.672	487,193.996	210° 36' 52"
	1083	PT	154+60.05							153,378.450	487,400.542	
	1084	PI	154+60.05	= A PT. 24' LT. NB HANSON STA. 13+37.33						153,378.450	487,400.542	PI

℄ CONNECTION A (HNBCA)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1090	PI	650+73.65	= A PT. 18' LT. OF RAMP A STA. 150+73.65						153,727.599	487,316.755	116° 27' 32"
(HNBCA-1)	1091	PI	652+60.06							153,644.544	487,483.636	PI
	1092	PC	652+09.84		85°50'40" LT	106° 06' 12"	54.000	50.219	80.906	153,666.920	487,438.677	
	1093	RP								153,715.264	487,462.737	30° 36' 52"
	1094	PT	652+90.74							153,687.764	487,509.210	PI
	1095	PI	652+90.74	= A PT. 30' LT. SB HANSON STA. 16+58.87						153,687.764	487,509.210	

℄ RAMP B1 (HNBRB1)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1100	PI	251+69.40	=A PT. 0' RT. OF SB HANSON STA. 13+49.43						153,406.178	487,377.444	30° 36' 52"
(HNBRB1-1)	1101	PI	252+11.34							153,442.275	487,398.804	PI
	1102	PC	251+69.40		45°30'32" RT	57° 17' 45"	100.000	41.942	79.428	153,406.178	487,377.444	
	1103	RP								153,355.252	487,463.505	76° 07' 24"
	1104	PT	252+48.83							153,452.334	487,439.522	
(HNBRB1-2)	1105	PI	255+07.67							153,514.413	487,690.812	PI
	1106	PC	254+15.60		49°26'28" RT	28° 38' 52"	200.000	92.076	172.582	153,492.330	487,601.422	
	1107	RP								153,298.167	487,649.388	125° 33' 53"
	1108	PT	255+88.18	=A PT. 6' RT. OF RAMP B2 STA. 255+88.18						153,460.859	487,765.712	PI

℄ RAMP B2 (HNBRB2)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1120	PI	255+88.18	= A PT. 6' LT. OF RAMP B1 STA. 255+88.18						153,465.740	487,769.202	PI
	1121	POT	270+23.79	= A PT. 41' LT. WB TH10/47 STA. 370+25.18						152,630.758	488,937.016	125° 33' 53"
	1122	PI	276+46.83	= A PT. 0' LT. WB TH10/47 STA. 376+46.84								

℄ CONNECTION B (HNBCB)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1140	PI	753+37.39	= A PT. 0' RT. NB HANSON STA. 16+33.80						153,621.367	487,572.173	125° 33' 53"
	1141	PI	755+88.18	= A PT. 12' LT. OF RAMP B2 STA. 255+88.18						153,475.502	487,776.182	PI

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: ALNTAB02
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
ALIGNMENT PLAN
ALIGNMENT TABULATION
RAMP A, CONNECTION A
RAMP B1, RAMP B2, CONNECTION B

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 116
7 OF 681

PLOT DATE: Jan 07 9:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ALI.dwg

℄ RAMP C1 (HNBRC1)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1151	POT	438+45.47	= A PT. 41' RT. EB TH10/47 STA. 338+44.10						154,180.566	486,155.176	125° 33' 53"
	1152	PI	450+52.40	= A PT. 6' RT. RAMP C2 STA. 450+52.40						153,478.591	487,136.966	PI

℄ RAMP C2 (HNBRC2)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1170	PI	450+52.40	= A PT. 6' LT. OF RAMP C1 STA. 450+52.40						153,483.472	487,140.455	125° 33' 53"
	1171	PI	451+44.47							153,429.918	487,215.356	PI
(HNBRC2-1)	1172	PC	450+52.40		49°26'28" LT	28°38'52"	200.000	92.076	172.582	153,483.472	487,140.455	
	1173	RP								153,646.164	487,256.779	76° 07' 24"
	1174	PT	452+24.98							153,452.001	487,304.746	
	1175	PI	454+26.70							153,500.380	487,500.580	PI
(HNBRC2-2)	1176	PC	453+84.76		45°30'32" LT	57°17'45"	100.000	41.942	79.428	153,490.321	487,459.862	
	1176	RP								153,587.402	487,435.878	30° 36' 52"
	1177	PT	454+64.19							153,536.476	487,521.940	
	1178	PI	454+64.19	= A PT. 0' LT. OF NB HANSON STA. 15+35.16						153,536.476	487,521.940	PI

℄ CONNECTION C (HNBCC)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1190	PI	850+52.40	= A PT. 12' RT. OF RAMP C1 STA. 450+52.40						153,468.830	487,129.986	125° 33' 53"
	1191	PI	852+80.12							153,336.382	487,315.228	PI
(HNBCC-1)	1192	PC	852+30.60		85°03'00" RT	106°-06'-12"	54.000	49.525	80.158	153,365.188	487,274.940	
	1193	RP								153,321.260	487,243.533	210° 36' 52"
	1194	PT	853+10.75							153,293.760	487,290.006	
	1195	PI	853+10.75	= A PT. 18' LT. OF SB HANSON STA.12+08.16						153,293.760	487,290.006	PI

℄ RAMP D (HNBRD)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1200	PI	551+79.41	=A PT. 24'RT. OF SB HANSON STA. 15+37.34						153,555.668	487,493.790	210° 36' 52"
	1201	PI	554+24.90							153,344.400	487,368.774	PI
(HNBRD-1)	1202	PC	551+79.41		91°17'41" LT	23°-52'-24"	240.000	245.486	382.415	153,555.668	487,493.790	
	1203	PT	555+61.82	= A PT. 18' LT. CONN D STA. 955+61.82						153,224.190	487,582.814	119° 19' 11"
	1204	PI	565+43.04							152,743.708	488,438.333	PI
(HNBRD-2)	1205	PC	564+80.00		01°15'38" RT	01°-00'-00"	5729.578	63.037	126.068	152,774.576	488,383.372	
	1206	PT	566+06.07							152,711.638	488,492.602	120° 34' 49"
	1207	PI	566+06.07							152,711.638	488,492.602	120° 12' 39"
	1208	PI	566+43.02							152,693.044	488,524.536	120° 57' 00"
	1209	PI	568+08.20							152,608.097	488,666.193	PI
(HNBRD-3)	1210	PC	566+43.02		01°39'06" LT	00°-30'-00"	11459.156	165.174	330.326	152,693.044	488,524.536	
	1211	PT	569+73.35							152,527.268	488,810.239	119° 17' 54"
	1212	PI	575+82.40							152,229.223	489,341.386	PI
(HNBRD-4)	1213	PC	573+59.66		04°27'09" RT	01°-00'-00"	5729.578	222.738	445.251	152,338.221	489,147.140	
	1214	PT	578+04.92	=A PT. 22' RT. EB TH10/47 STA 378+04.38						152,105.474	489,526.584	123° 45' 03"
	1215	PI	583+22.15							151,818.112	489,956.641	PI
(HNBRD-5)	1216	PC	578+04.92		10°19'00" RT	01°-00'-00"	5729.578	517.229	1031.662	152,105.474	489,526.584	134° 04' 03"
	1217	PT	588+36.58							151,458.376	490,328.282	PI

℄ CONNECTION D (HNBCD)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1225	PI	953+49.14	= A PT. 30' RT. NB HANSON STA. 12+22.50						153,252.123	487,388.536	30° 36' 52"
	1226	PI	954+01.93							153,297.558	487,415.421	PI
(HNBCD-1)	1227	PC	953+49.14		88°42'19" RT	106°-06'-12"	54.000	52.793	83.603	153,252.123	487,388.536	
	1228	RP								153,224.623	487,435.009	119° 19' 11"
	1229	PT	954+32.74							153,271.706	487,461.452	
	1230	PI	955+61.82	= A PT. 18' RT. OF RAMP D STA. 555+61.82						153,208.496	487,573.999	PI

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: ALNTAB03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

ALIGNMENT PLAN

ALIGNMENT TABULATION
RAMP C1, RAMP C2, CONNECTION C
RAMP D, CONNECTION D

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 117 / 681

PLOT DATE: Jan 17 9:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ALN.dwg

℄ NORTHDALE BOULEVARD (C.S.A.H. 11) (NNDB)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1300	POT	0+00.00	= HANSON BLVD. CENTERLINE STA. 23+92.36						154,288.968	487,933.522	120° 52' 01"
	1301	PI	1+60.06							154,206.851	488,070.909	PI
(NNDB-1)	1302	PC	0+53.86		21°00'00" RT	10°00'00"	572.960	106.192	210.000	154,261.332	487,979.758	
	1303	RP								153,769.525	487,685.804	141° 52' 01"
	1304	PT	2+63.87							154,123.323	488,136.482	
	1305	PI	7+09.72							153,772.627	488,411.790	PI
(NNDB-2)	1306	PC	4+45.57		49°30'02" LT	10°00'00"	572.960	264.142	495.007	153,980.395	488,248.685	
	1307	RP								154,334.192	488,699.362	92° 21' 59"
	1308	PT	9+40.58							153,761.721	488,675.706	
	1309	POT	21+06.29	(1)						153,713.592	489,840.419	PI

℄ NORTHDALE BOULEVARD WESTBOUND (NNDBWB)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1320	PI	0+00	= HANSON BLVD. CENTERLINE STA. 23+67.36						154,307.040	487,944.216	120° 52' 01"
	1321	PI	1+64.04							154,222.880	488,085.024	PI
(NNDBWB-1)	1322	PC	0+53.96		21°00'00" RT	09°38'47"	593.960	110.084	217.698	154,279.358	487,990.532	
	1323	RP								153,769.525	487,685.804	141° 52' 01"
	1324	PT	2+71.66							154,136.290	488,153.000	
	1325	PI	7+07.82							153,793.210	488,422.330	PI
(NNDBWB-2)	1326	PC	4+53.36		49°30'02" LT	10°22'50"	551.960	254.460	476.865	153,993.362	488,265.203	
	1327	POC	5+82.60	= ℄ JAY STREET						153,901.935	488,356.124	92° 21' 59"
	1328	RP								154,334.192	488,699.362	
	1329	PT	9+30.23							153,782.704	488,676.574	
	1330	PI	9+89.65	= A PT. 21' LT NORTHDALE BLVD STA. 10+00						153,780.250	488,735.941	PI

℄ NORTHDALE BOULEVARD EASTBOUND (NNDBEB)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1340	PI	0+00	= HANSON BLVD. CENTERLINE STA. 24+13.36						154,267.452	487,920.790	120° 52' 01"
	1341	PI	1+55.31							154,187.769	488,054.106	PI
(NNDBEB-1)	1342	PC	0+53.75		21°00'00" RT	10°27'22"	547.960	101.558	200.838	154,239.873	487,966.932	
	1343	RP								153,769.525	487,685.804	141° 52' 01"
	1344	PT	2+54.59							154,107.886	488,116.817	
	1345	PI	7+11.97							153,748.124	488,399.242	PI
(NNDBEB-2)	1346	PC	4+36.30		49°30'02" LT	09°34'55"	597.960	275.667	516.606	153,964.958	488,229.020	
	1347	POC	5+76.30	= ℄ JAY STREET						153,865.911	488,327.518	92° 21' 59"
	1348	RP								154,334.192	488,699.362	
	1349	PT	9+52.91							153,736.742	488,674.674	
	1350	PI	10+12.33	= A PT. 25' RT NORTHDALE BLVD STA. 10+00						153,734.289	488,734.042	PI

℄ INPLACE T.H. 10/47 WESTBOUND (H10WB)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1400	POT	317+72.73	(1)						155,359.860	484,449.046	121° 45' 03"
	1401	PI	381+93.90							151,980.885	489,909.257	PI
(H10WB-1)	1402	PC	375+75.68		12°19'00" RT	01°00'00"	5729.578	618.216	1231.667	152,306.205	489,383.560	
	1403	RP								147,434.084	486,368.515	134° 04' 03"
	1404	PT	388+07.35							151,550.914	490,353.458	
	1405	PI	396+33.03	(1)						150,976.651	490,946.727	PI

℄ INPLACE T.H. 10/47 EASTBOUND (H10EB)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1425	POT	317+72.73	(1)						155,305.438	484,415.368	121° 45' 03"
	1426	PI	380+93.23							151,979.436	489,789.976	PI
(H10EB-1)	1427	PC	374+75.01		12°19'00" RT	01°00'00"	5729.578	618.217	1231.668	152,304.758	489,264.278	
	1428	RP								147,432.634	486,249.235	134° 04' 03"
	1429	PT	387+06.68							151,549.464	490,234.178	
	1430	PI	395+92.01	(1)						150,933.717	490,870.306	PI

(1) ALIGNMENT POINT IS BEYOND PROJECT LIMITS AND IS NOT SHOWN OR LABELED ON ALIGNMENT PLAN LAYOUT

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: ALNTAB04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
ALIGNMENT PLAN
ALIGNMENT TABULATION
NORTHDALE BOULEVARD
EXISTING HIGHWAY 10/47 WESTBOUND & EASTBOUND

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 118 / 681

PLOT DATE: Jan 17 9:38am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ALN.dwg

℄ NORTHDALE BOULEVARD BYPASS No. 1 (NNDBY1)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1520	PI	25+00	= HANSON BLVD. CENTERLINE STA. 23+74.36						154,273.476	487,924.356	120° 52' 01"
NNDBY1-1	1521	PI	25+56.64							154,193.112	488,058.810	PI
	1522	PC	25+53.79		21° 00' 00" RT	10° 19' 28"	554.960	102.856	203.403	154,245.882	487,970.523	141° 52' 01"
	1523	RP								153,769.525	487,685.804	
	1524	PT	27+57.19							154,112.208	488,122.323	
NNDBY1-2	1525	PI	32+11.34							153,754.985	488,402.756	PI
	1526	PC	29+38.90		49° 30' 02" LT	09° 41' 43"	590.960	272.440	510.559	153,969.280	488,234.526	92° 21' 59"
	1527	RP								154,334.192	488,699.362	
	1528	PT	34+49.46							153,743.736	488,674.963	
NNDBY1-3	1529	PI	42+29.30							153,711.538	489,454.139	PI
	1530	PC	41+78.87		05° 02' 19" LT	04° 59' 59"	1146.000	50.423	100.781	153,713.620	489,403.759	87° 19' 39"
	1531	RP								154,858.644	489,451.075	
	1532	PT	42+79.65							153,713.890	489,504.507	
NNDBY1-4	1533	PI	44+34.18							153,721.094	489,658.862	PI
	1534	PC	43+83.76		05° 02' 19" RT	04° 59' 59"	1146.000	50.423	100.781	153,718.744	489,608.494	92° 21' 59"
	1535	RP								152,573.990	489,661.926	
	1536	PT	44+84.54							153,719.012	489,709.242	
	1537	PI	44+84.54	= EXISTING HANSON BLVD. ℄ STA. 19+75						153,719.012	489,709.242	PI

℄ NORTHDALE BOULEVARD BYPASS No. 2 (NNDBY2)

ALIGNMENT DATA

CURVE NUMBER	POINT NUMBER	POINT TYPE	STATION	NOTES	CURVE DATA					COORDINATES		AZIMUTH
					DELTA	DEGREE (FT.)	RADIUS (FT.)	TANGENT (FT.)	LENGTH (FT.)	Y	X	
	1600	PI	50+00	= HANSON BLVD. CENTERLINE STA. 24+10.36						154,304.418	487,942.757	120° 52' 01"
NNDBY2-1	1601	PI	51+63.39							154,220.590	488,083.007	PI
	1602	PC	50+53.86		21° 00' 00" RT	09° 41' 43"	590.960	109.528	216.598	154,276.782	487,988.992	141° 52' 01"
	1603	RP								153,769.525	487,685.804	
	1604	PT	52+70.46							154,134.438	488,150.640	
NNDBY2-2	1605	PI	57+08.02							153,790.269	488,420.824	PI
	1606	PC	54+52.17		49° 30' 02" LT	10° 19' 28"	554.960	255.843	479.456	153,991.510	488,262.843	92° 21' 59"
	1607	RP								154,334.192	488,699.362	
	1608	PT	59+31.63							153,779.706	488,676.450	
NNDBY2-3	1609	PI	67+11.47							153,747.508	489,455.626	PI
	1610	PC	66+61.05		05° 02' 19" RT	04° 59' 59"	1146.000	50.423	100.781	153,749.590	489,405.246	97° 24' 18"
	1611	RP								152,604.567	489,357.930	
	1612	PT	67+61.83							153,741.010	489,505.628	
NNDBY2-4	1613	PI	69+16.35							153,721.094	489,658.862	PI
	1614	PC	68+65.93		05° 02' 19" LT	04° 59' 59"	1146.000	50.423	100.781	153,727.593	489,608.860	92° 21' 59"
	1615	RP								154,864.035	489,756.558	
	1616	PT	69+66.71							153,719.012	489,709.242	
	1617	PI	69+66.71	= EXISTING HANSON BLVD. ℄ STA. 19+75						153,719.012	489,709.242	P1

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: ALNTAB05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

ALIGNMENT PLAN

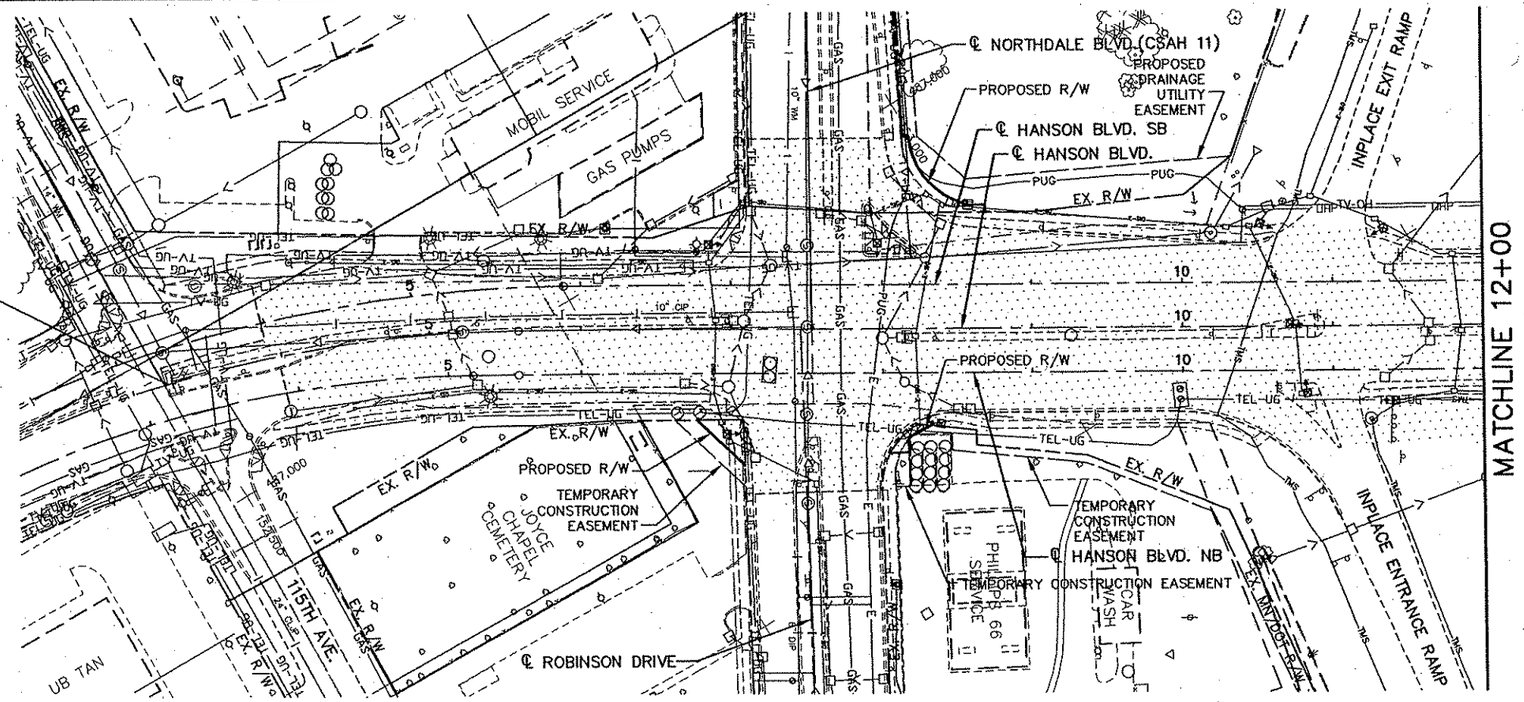
ALIGNMENT TABULATION
NORTHDALE BOULEVARD BYPASS No. 1 and No. 2
FOR STAGING AND TRAFFIC CONTROL

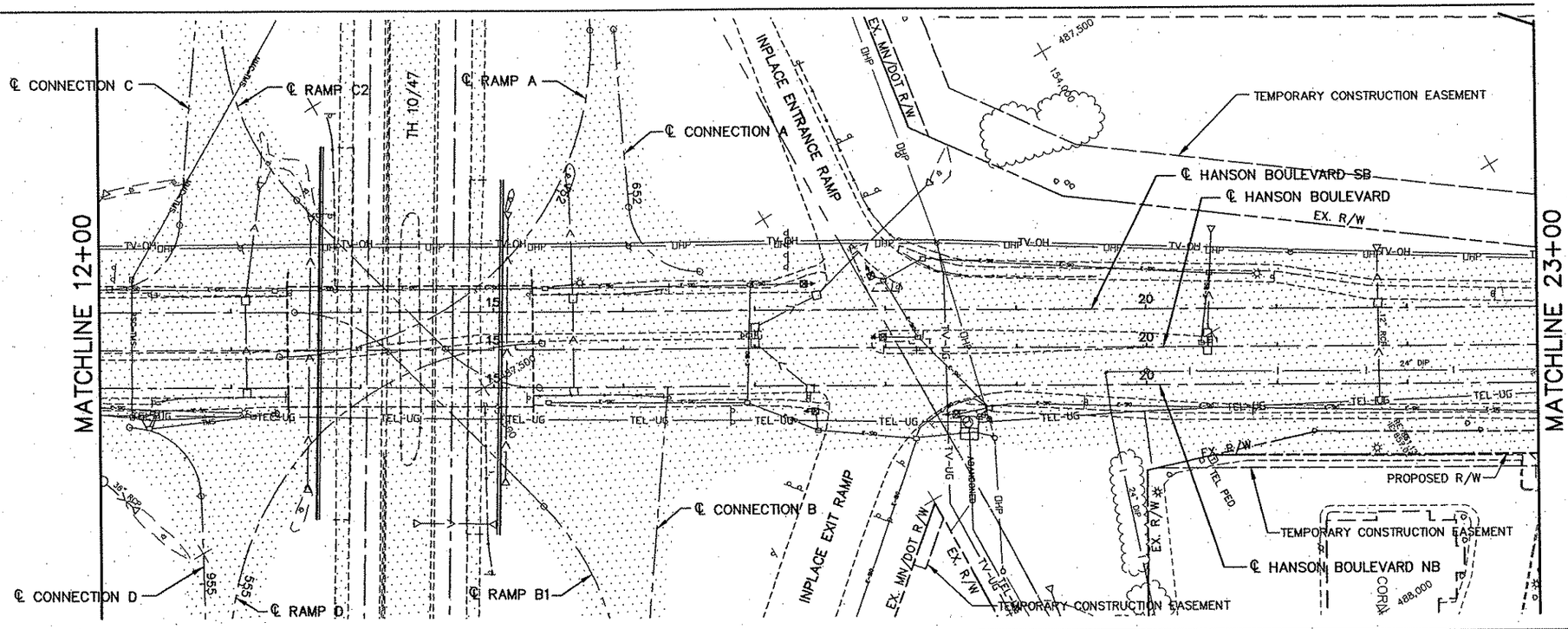
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 119 / 681

PLOT DATE: Jan 07 9:38am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ALN.dwg

ISN-World Drawings
:D-ESM
:2INPNOTES
ISN-PCO-HATCH
ISN-EUT
ISN-ETO
ISN-ALI
F-DWG-BDR
ISN-ESU
x34bdr
ISN-W





LEGEND

DENOTES AREAS OF PROPOSED CONSTRUCTION: EDGE LINES REPRESENT FACE OF CURB, EDGE OF PAVEMENT, OR OUTSIDE EDGE OF SIDEWALK

0 25 50 100
SCALE IN FEET

INPLACE UTILITIES AND TOPOGRAPHY NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN ON THE INPLACE UTILITY AND TOPOGRAPHY SHEETS GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP WHICH SHALL BE USED FOR STAKING PURPOSES.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE INPLACE UTILITY TABULATION FOR MORE INFORMATION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: INP-HNSN01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

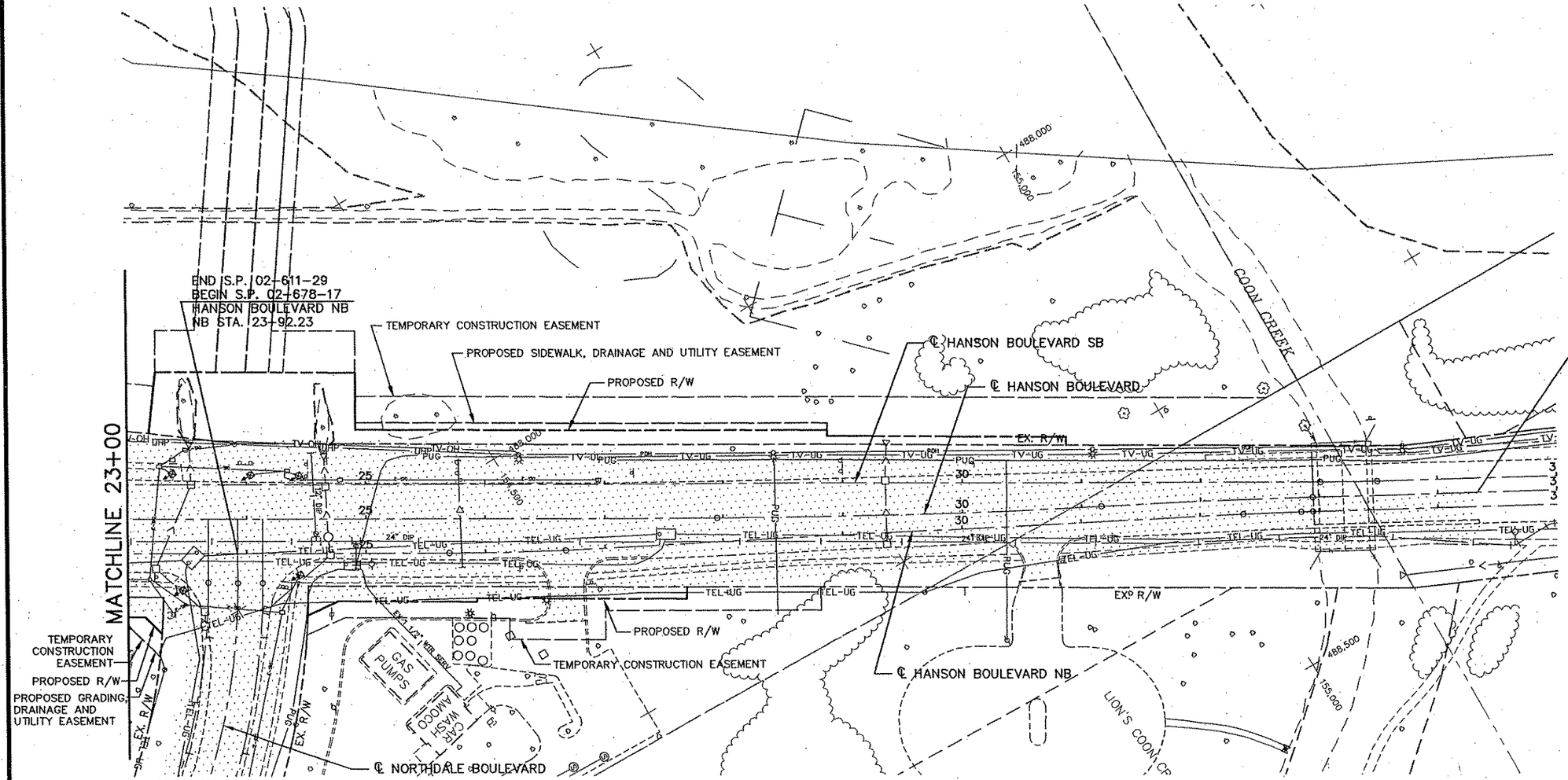
INPLACE UTILITIES AND TOPOGRAPHY

HANSON BOULEVARD
STATION 3+16.41 TO STATION 23+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 120 / 681

PLOT DATE: Jan 17 10:08am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-INP-.dwg



LEGEND

DENOTES AREAS OF PROPOSED CONSTRUCTION: EDGE LINES REPRESENT FACE OF CURB, EDGE OF PAVEMENT, OR OUTSIDE EDGE OF SIDEWALK

END CONSTRUCTION
END S.P. 02-678-17, 114-020-28
HANSON BOULEVARD NB
NB STA. 34+34.41

0 25 50 100
SCALE IN FEET

INPLACE UTILITIES AND TOPOGRAPHY NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN ON THE INPLACE UTILITY AND TOPOGRAPHY SHEETS GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP WHICH SHALL BE USED FOR STAKING PURPOSES.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE INPLACE UTILITY TABULATION FOR MORE INFORMATION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: INP-HNSN02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

INPLACE UTILITIES AND TOPOGRAPHY

HANSON BOULEVARD
STATION 23+00.00 TO STATION 34+34.41

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 121 / 681

PLOT DATE: Jan 07 10:08am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRO-CONST\042-INP

Xref'd Drawings
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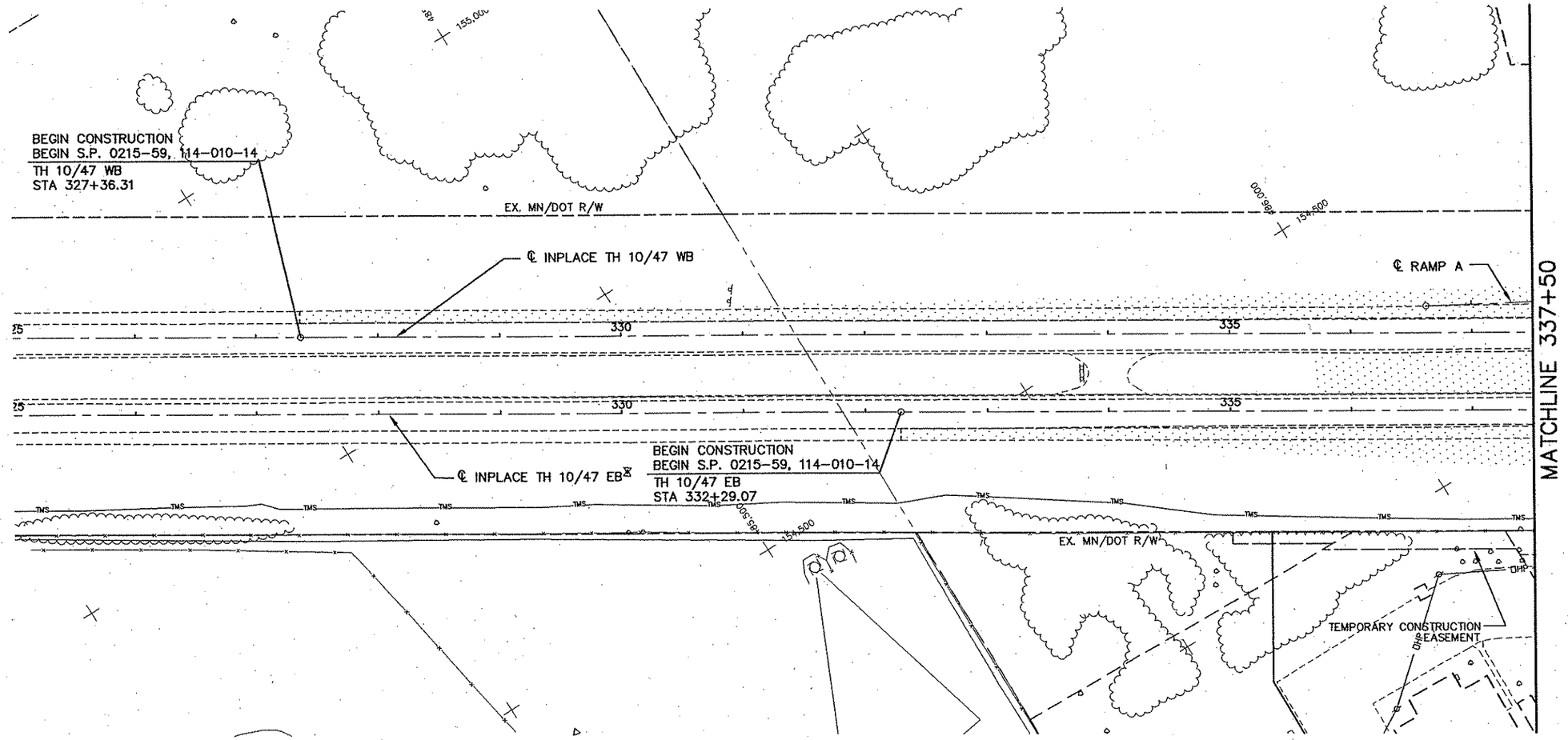

LEGEND

DENOTES AREAS OF PROPOSED CONSTRUCTION: EDGE LINES REPRESENT FACE OF CURB, EDGE PAVEMENT, OR OUTSIDE EDGE OF SIDEWALK

0 25 50 100
SCALE IN FEET

INPLACE UTILITIES AND TOPOGRAPHY NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN ON THE INPLACE UTILITY AND TOPOGRAPHY SHEETS GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP WHICH SHALL BE USED FOR STAKING PURPOSES.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE INPLACE UTILITY TABULATION FOR MORE INFORMATION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: INP-HWY01
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

INPLACE UTILITIES AND TOPOGRAPHY

HIGHWAY 10/47 AND RAMPS A-D
STATION 327+36.31 TO STATION 337+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 122 / 681

PLOT DATE: Jan 07 10:07am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-INP

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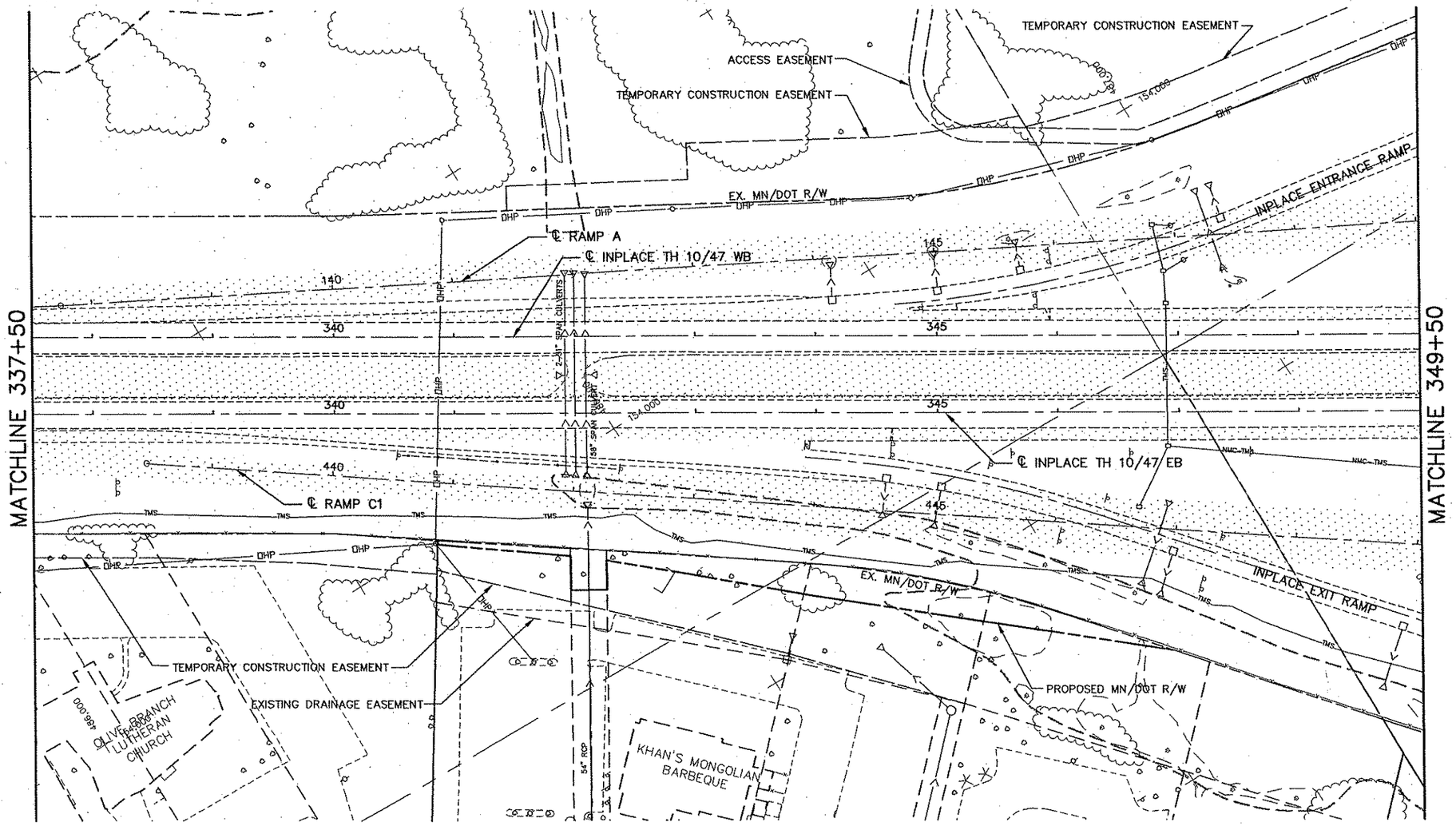

LEGEND

DENOTES AREAS OF PROPOSED CONSTRUCTION: EDGE LINES REPRESENT FACE OF CURB, EDGE OF PAVEMENT, OR OUTSIDE EDGE OF SIDEWALK

0 25 50 100
SCALE IN FEET

INPLACE UTILITIES AND TOPOGRAPHY NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN ON THE INPLACE UTILITY AND TOPOGRAPHY SHEETS GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP WHICH SHALL BE USED FOR STAKING PURPOSES.

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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: INP-HWY02
DATE: JANUARY 8, 2007

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

INPLACE UTILITIES AND TOPOGRAPHY

HIGHWAY 10/47 AND RAMPS A-D
STATION 337+50.00 TO STATION 349+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 123 / 681

PLOT DATE: Jan 07 10:07am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\RD-CONST\042-INP2.dwg

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ISN-ALI
F-DWG-BDR
ISN-ES
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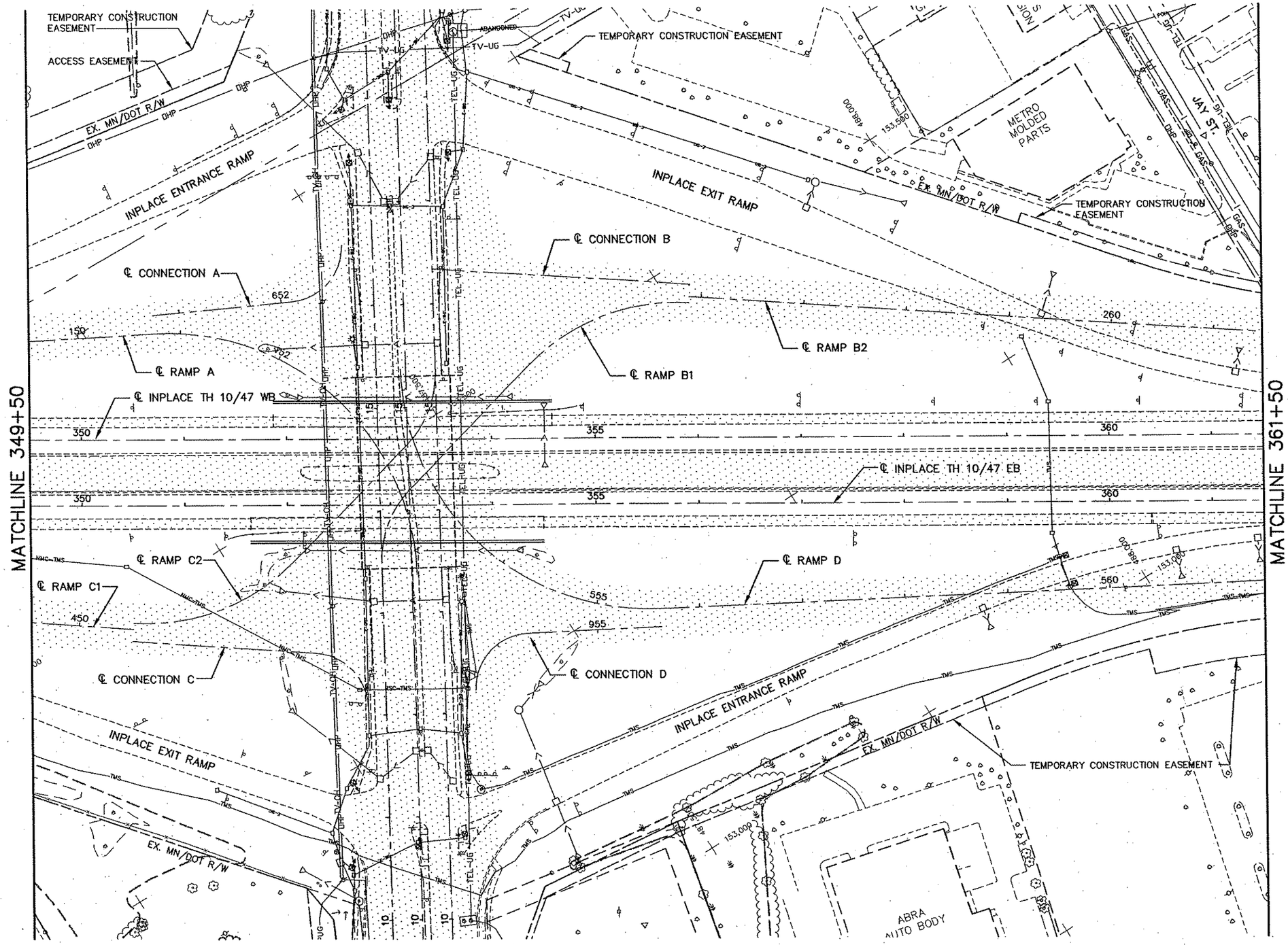

LEGEND

DENOTES AREAS OF PROPOSED CONSTRUCTION: EDGE LINES REPRESENT FACE OF CURB, EDGE OF PAVEMENT, OR OUTSIDE EDGE OF SIDEWALK

0 25 50 100
SCALE IN FEET

INPLACE UTILITIES AND TOPOGRAPHY NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN ON THE INPLACE UTILITY AND TOPOGRAPHY SHEETS GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP WHICH SHALL BE USED FOR STAKING PURPOSES.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE INPLACE UTILITY TABULATION FOR MORE INFORMATION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: INP-HWY03
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

INPLACE UTILITIES AND TOPOGRAPHY

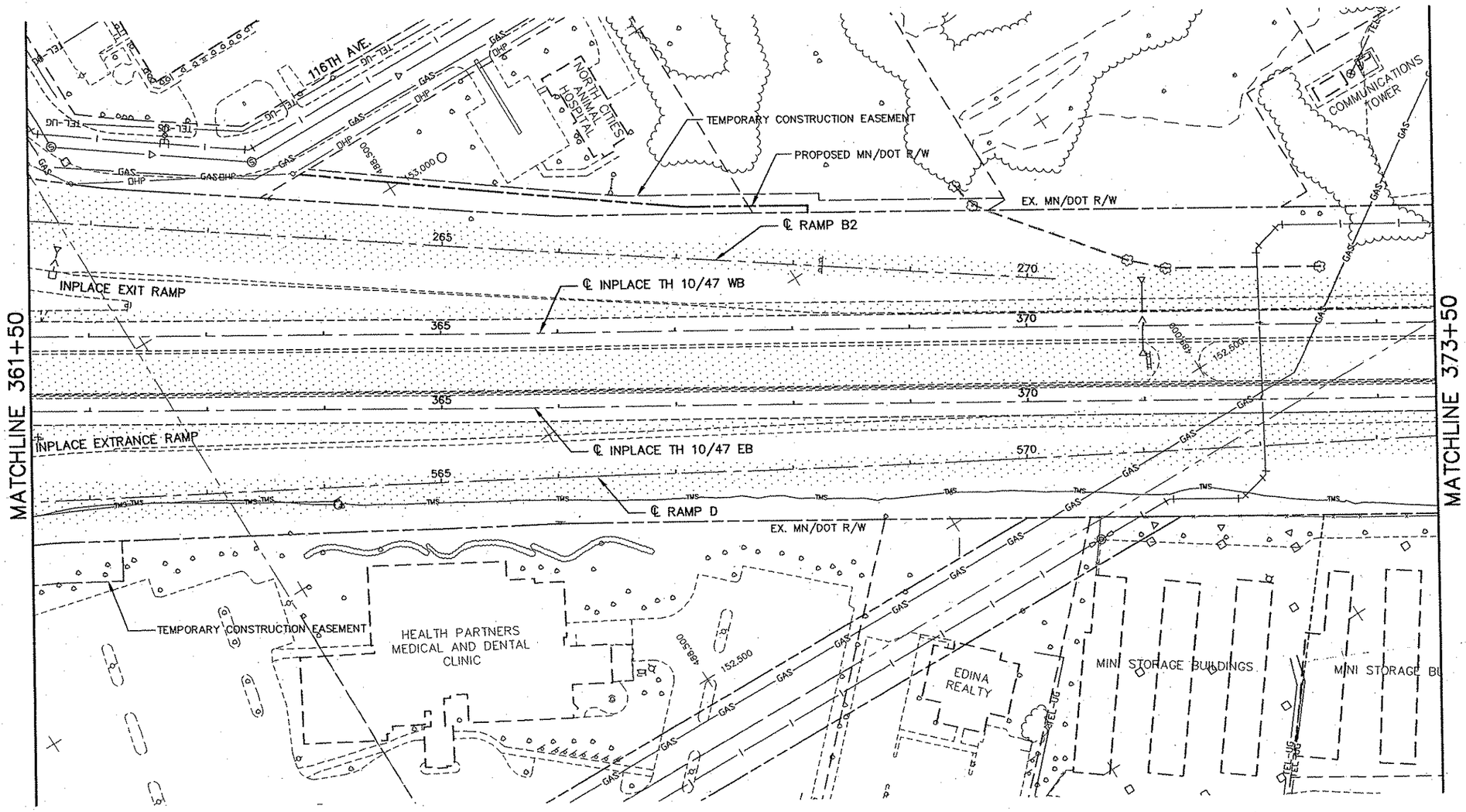
HIGHWAY 10/47 AND RAMPS A–D
STATION 349+50.00 TO STATION 361+50.00

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 124

5 OF 681

PLOT DATE: Jan 07 10:07am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-INP.dwg



LEGEND

DENOTES AREAS OF PROPOSED CONSTRUCTION: EDGE LINES REPRESENT FACE OF CURB, EDGE OF PAVEMENT, OR OUTSIDE EDGE OF SIDEWALK

0 25 50 100
SCALE IN FEET

INPLACE UTILITIES AND TOPOGRAPHY NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN ON THE INPLACE UTILITY AND TOPOGRAPHY SHEETS GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP WHICH SHALL BE USED FOR STAKING PURPOSES.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE INPLACE UTILITY TABULATION FOR MORE INFORMATION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ
DESIGN BY: SAW
CHKED. BY: SAW
DWG. NAME: INP-HWY04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
INPLACE UTILITIES AND TOPOGRAPHY
HIGHWAY 10/47 AND RAMPS A-D
STATION 361+50.00 TO STATION 373+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

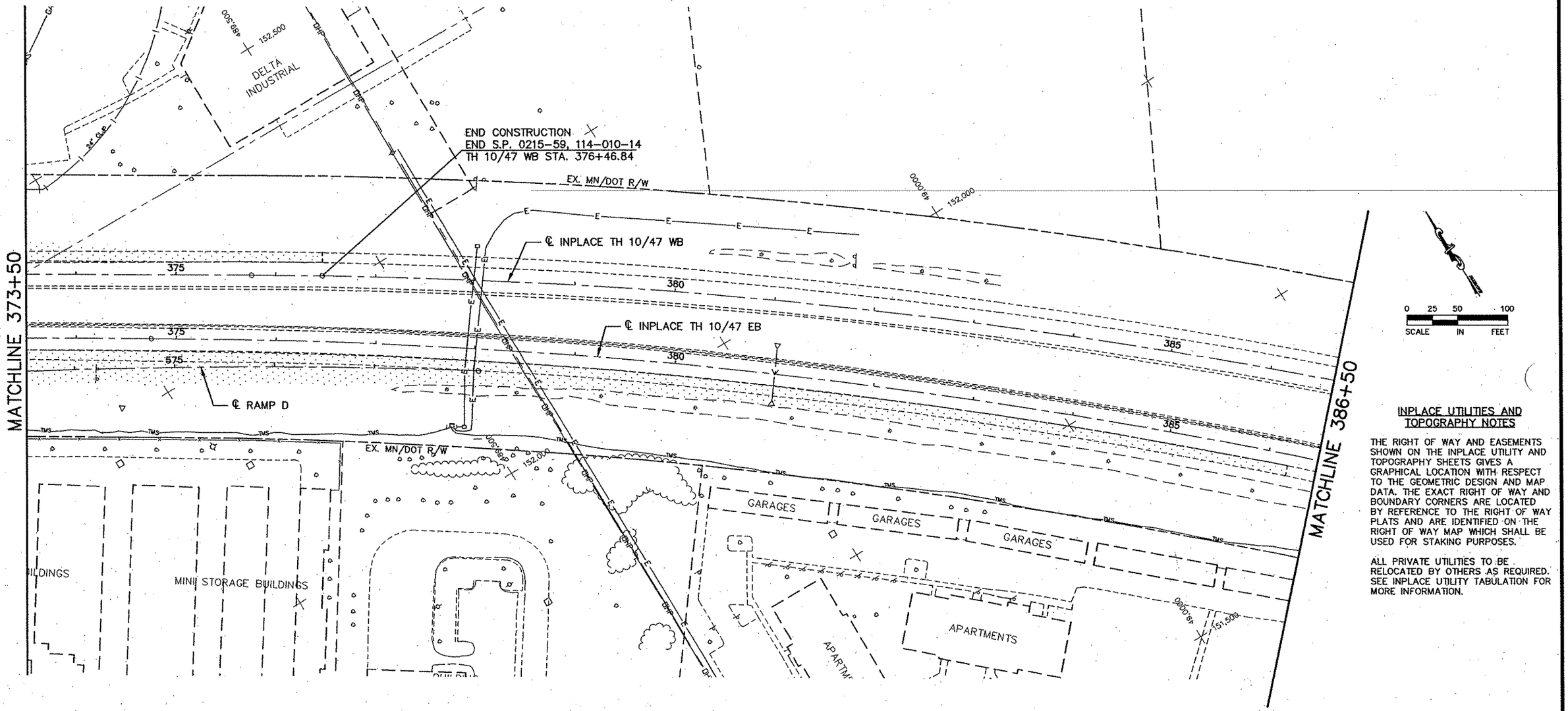
SHEET NO. 125 / 681

PLOT DATE: Jan 07 10:07am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-INP-...dwg

StatePlotDrawings
ISN-PCO-HATCH
2INPNOTES
D-ESM
ISN-EUT
ISN-ETO
ISN-ALI
F-DWG-BDR
ISN-ESU
x34bdr
ISN-WT

LEGEND

DENOTES AREAS OF PROPOSED CONSTRUCTION: EDGE LINES REPRESENT FACE OF CURB, EDGE OF PAVEMENT, OR OUTSIDE EDGE OF SIDEWALK



INPLACE UTILITIES AND TOPOGRAPHY NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN ON THE INPLACE UTILITY AND TOPOGRAPHY SHEETS GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP WHICH SHALL BE USED FOR STAKING PURPOSES.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE INPLACE UTILITY TABULATION FOR MORE INFORMATION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: INP-HWY05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

INPLACE UTILITIES AND TOPOGRAPHY

HIGHWAY 10/47 AND RAMPS A-D
STATION 373+50.00 TO STATION 386+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 126

7 OF 681

PLOT DATE: Jan 07 10:07am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-INP...dwg

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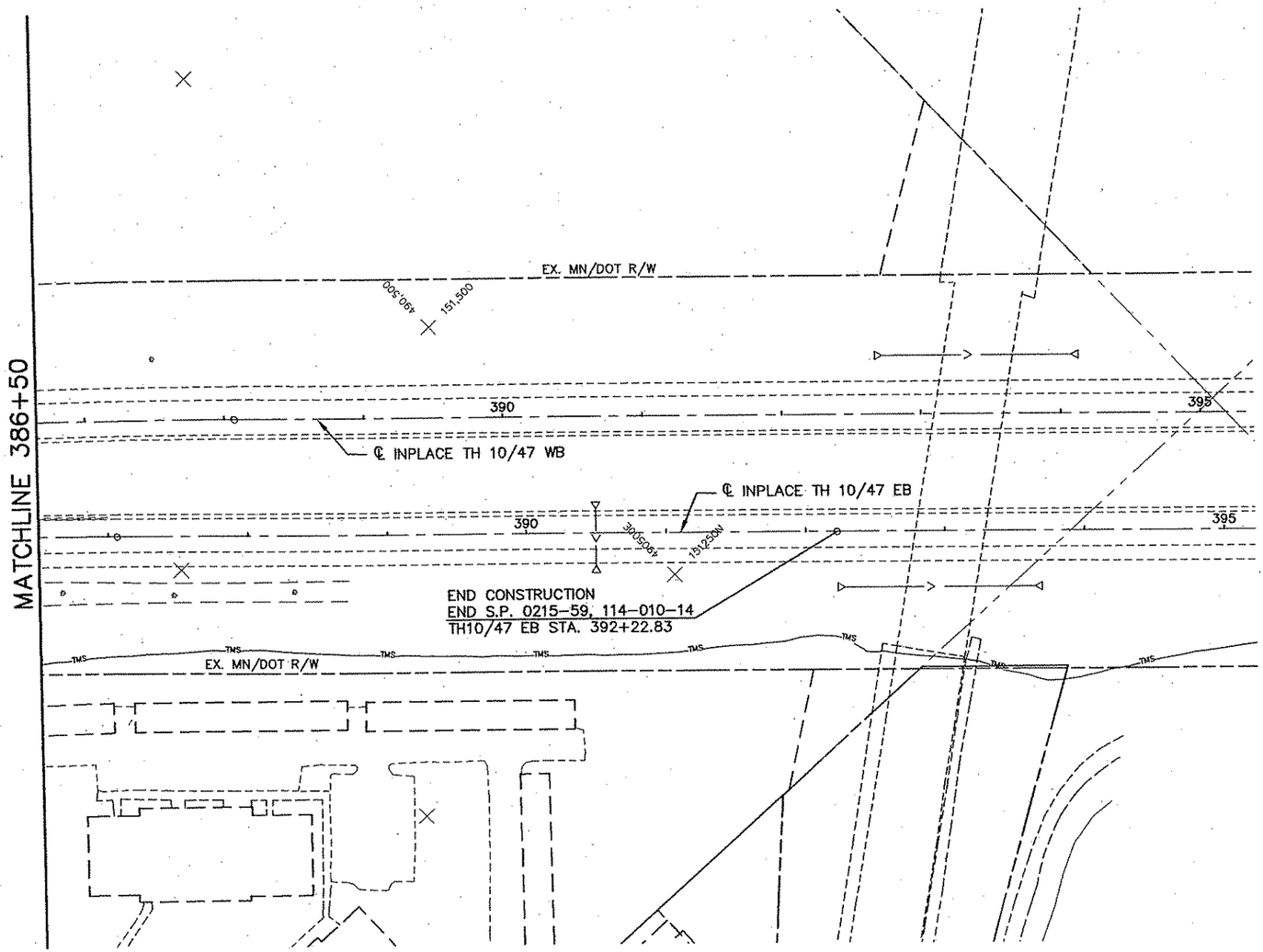

LEGEND

DENOTES AREAS OF PROPOSED CONSTRUCTION: EDGE LINES REPRESENT FACE OF CURB, EDGE OF PAVEMENT, OR OUTSIDE EDGE OF SIDEWALK

0 25 50 100
SCALE IN FEET

INPLACE UTILITIES AND TOPOGRAPHY NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN ON THE INPLACE UTILITY AND TOPOGRAPHY SHEETS GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP WHICH SHALL BE USED FOR STAKING PURPOSES.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE INPLACE UTILITY TABULATION FOR MORE INFORMATION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: INP–HWY06
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel

KARL KEEL
DATE: 1/8/2007 MN. LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

INPLACE UTILITIES AND TOPOGRAPHY

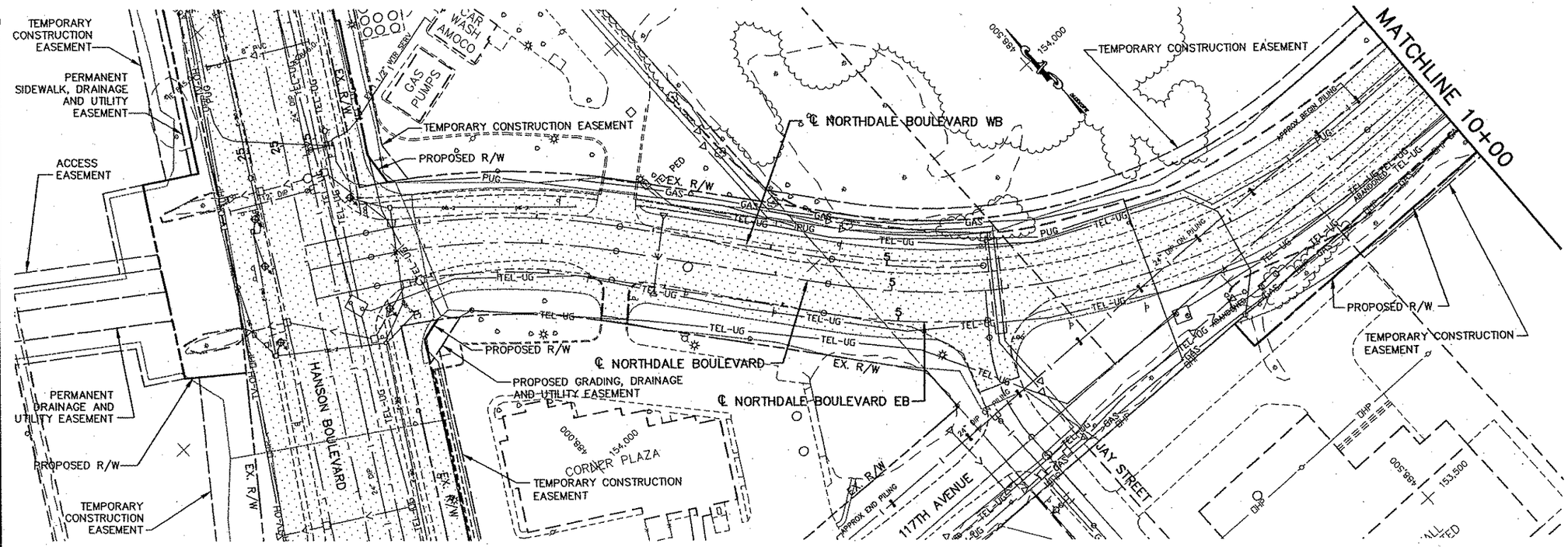
HIGHWAY 10/47 AND RAMPS A–D
STATION 386+50.00 TO STATION 392+22.83

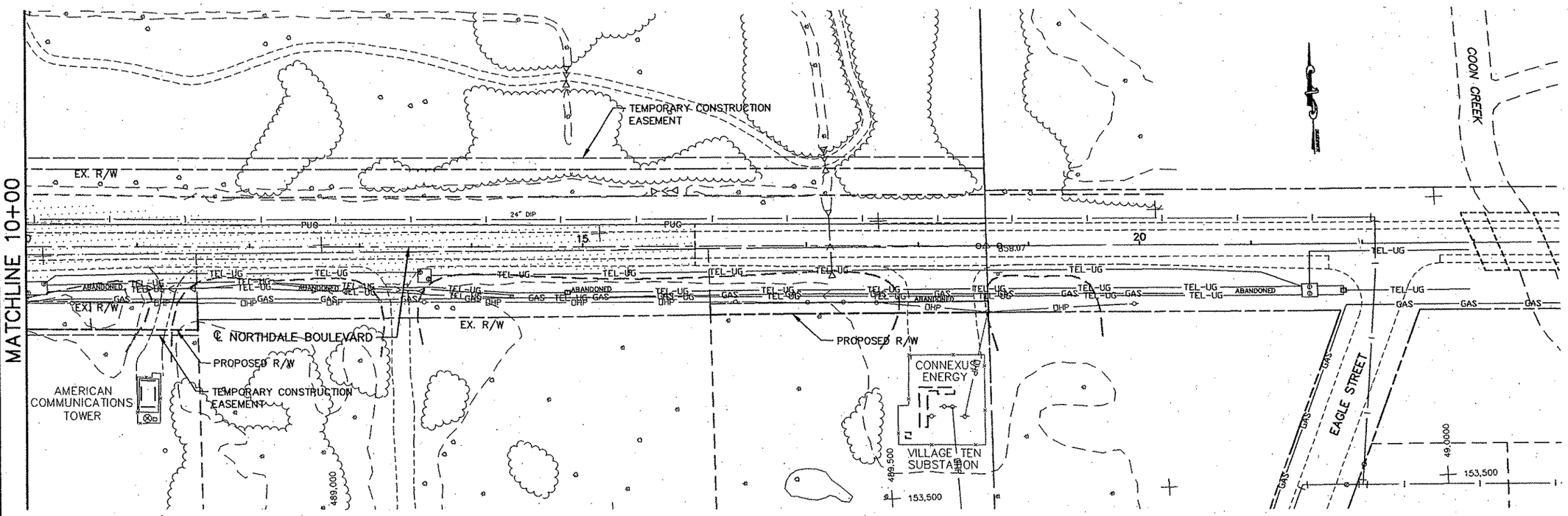
CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 127 / 681

PLOT DATE: Jan 07 10:07am DISK FILE NAME: (16.1) R:\33689\33889042\PLAN-SHT\PRD-CONST\042-INP...s.dwg

Sheet(s) Drawings
D-ESM
ISN-PCO-HATCH
ISN-PCO
2INPNOTES
ISN-ETO
ISN-ALJ
F-DWG-BDR
ISN-ESU
x34bdr
ISN-WET





LEGEND

DENOTES AREAS OF PROPOSED CONSTRUCTION: EDGE LINES REPRESENT FACE OF CURB, EDGE OF PAVEMENT, OR OUTSIDE EDGE OF SIDEWALK

0 25 50 100
SCALE IN FEET

INPLACE UTILITIES AND TOPOGRAPHY NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN ON THE INPLACE UTILITY AND TOPOGRAPHY SHEETS GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP WHICH SHALL BE USED FOR STAKING PURPOSES.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE INPLACE UTILITY TABULATION FOR MORE INFORMATION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ
DESIGN BY: SAW
CHKED. BY: SAW
DWG. NAME: INP-NNDALE0
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

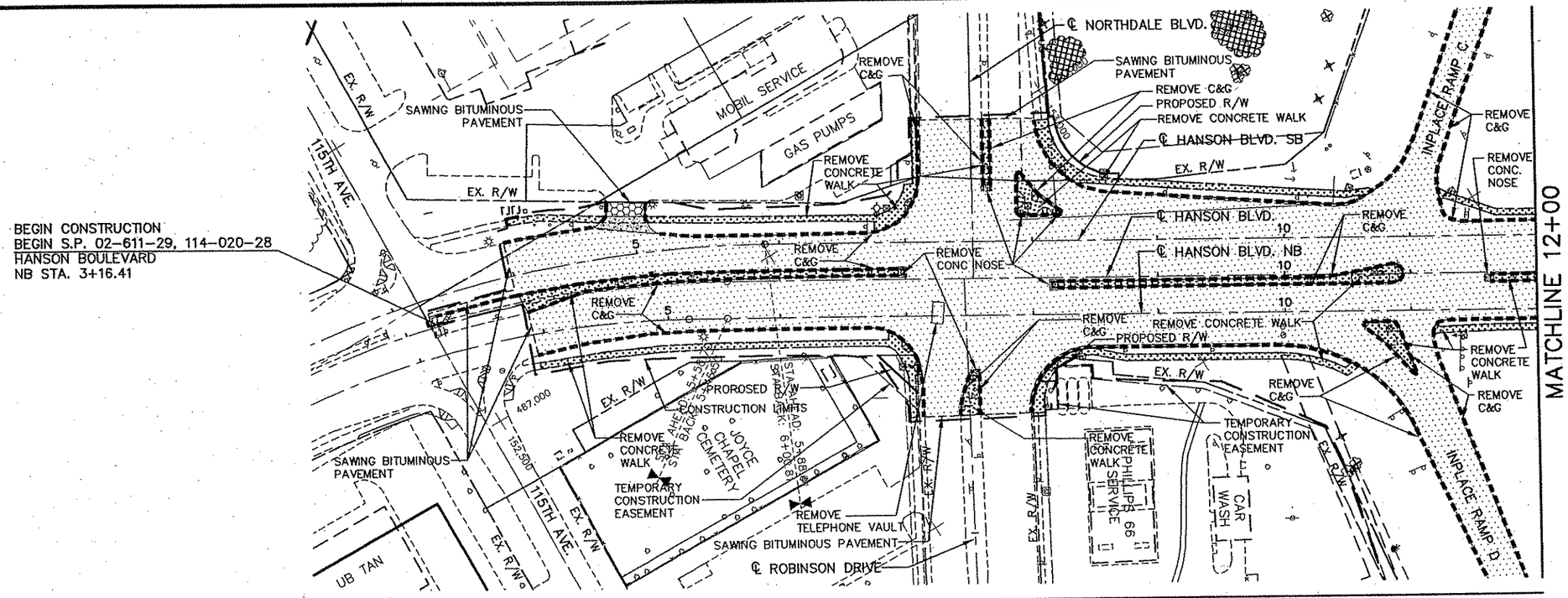
INPLACE UTILITIES AND TOPOGRAPHY

NORTHDALE BOULEVARD (CSAH 11)
STATION 0+00.00 TO STATION 16+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 128 / 681

PLOT DATE: Jan 07 10:07am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-INPLE01.dwg



REMOVAL LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- BITUMINOUS SURFACING REMOVAL
- MILL BITUMINOUS SURFACE (2")
- CONCRETE DRIVEWAY APRON REMOVAL
- CONCRETE WALK REMOVAL
- CONCRETE APPROACH NOSE REMOVAL
- BRIDGE APPROACH PANEL REMOVAL
- BRIDGE REMOVAL
- CONCRETE SLOPE PAVING REMOVAL
- or ⊗ TREE REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- CONSTRUCTION LIMITS

0 25 50 100
SCALE IN FEET

REMOVAL NOTES

REFER TO TMS PLANS FOR TMS REMOVALS.

REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

THE RIGHT OF WAY AND EASEMENTS SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ		REVISED PER MnDOT COMMENTS.

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: JRM
CHKED. BY: SAW
DWG. NAME: RM-HNSN01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

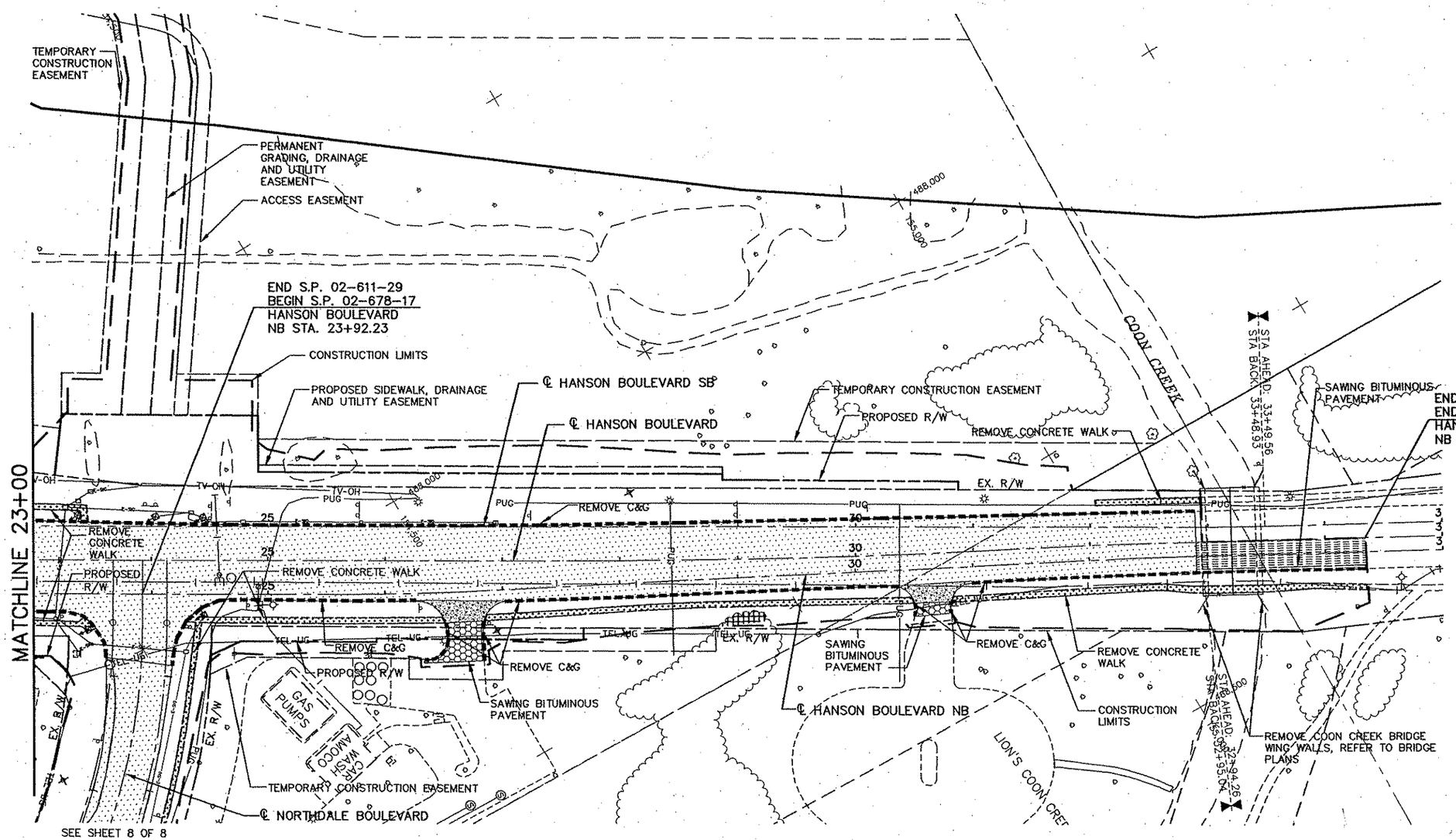
REMOVAL PLAN

HANSON BOULEVARD
STATION 3+16.41 TO STATION 23+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 129 / 681

PLOT DATE: Jan 07 10:13am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-RM 1.dwg



REMOVAL LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- BITUMINOUS SURFACING REMOVAL
- MILL BITUMINOUS SURFACE (2")
- CONCRETE DRIVEWAY APRON REMOVAL
- CONCRETE WALK REMOVAL
- CONCRETE APPROACH NOSE REMOVAL
- BRIDGE APPROACH PANEL REMOVAL
- BRIDGE REMOVAL
- CONCRETE SLOPE PAVING REMOVAL
- or TREE REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- CONSTRUCTION LIMITS

0 25 50 100
SCALE IN FEET

REMOVAL NOTES

REFER TO TMS PLANS FOR TMS REMOVALS.

REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ		REVISED PER MnDOT COMMENTS.

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: RM-HNSN02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

REMOVAL PLAN

HANSON BOULEVARD
STATION 23+00.00 TO STATION 34+34.41

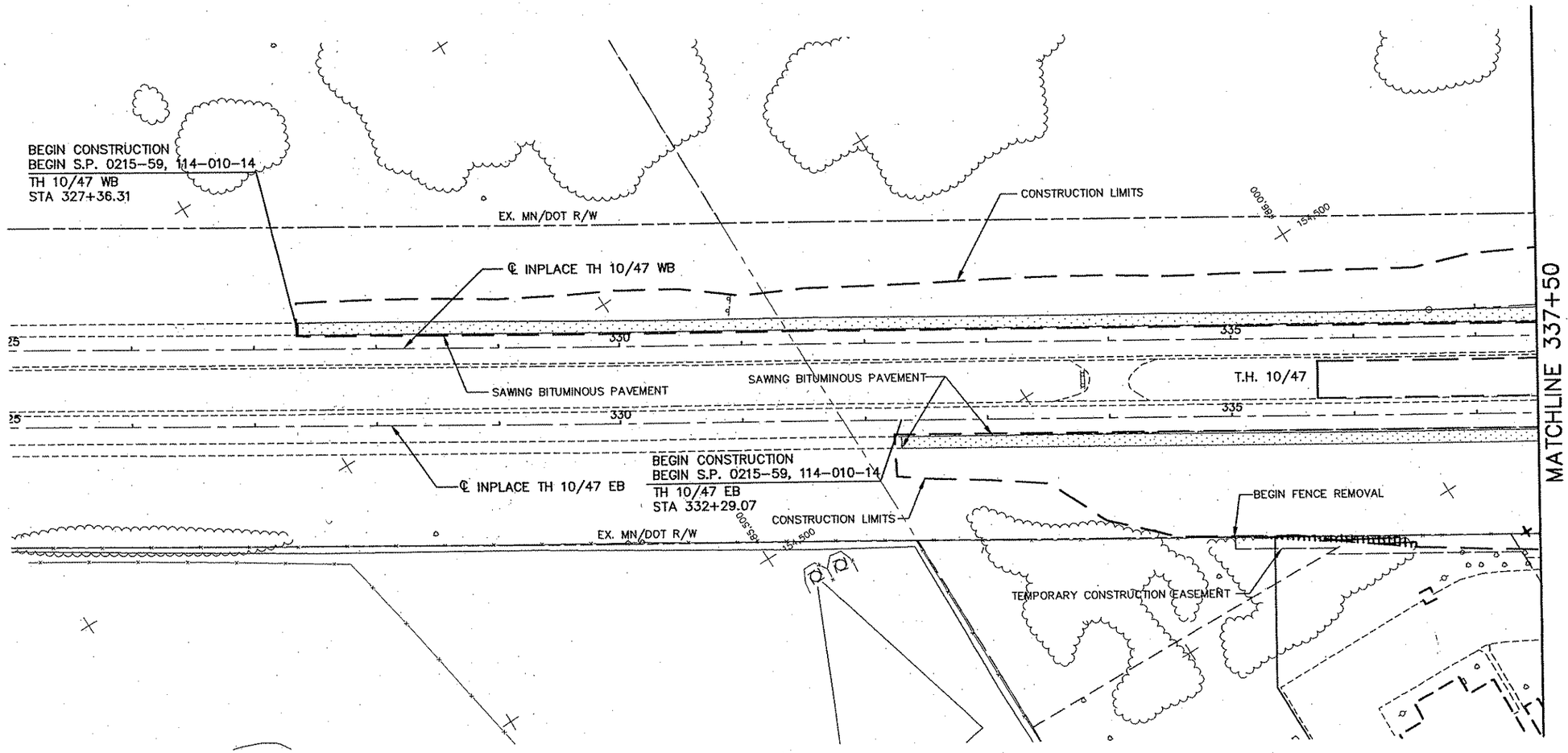
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 130 / 681

2 OF

PLOT DATE: Jan 07 10:14am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-RM

Xref'd Drawings
ISN-PCO
D-ESM
2RMNOTES
ISN-REM-HATCH
ISN-EUT
ISN-ETO
ISN
-UM
IDR
IS
x34dv



REMOVAL LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- BITUMINOUS SURFACING REMOVAL
- MILL BITUMINOUS SURFACE (2")
- CONCRETE DRIVEWAY APRON REMOVAL
- CONCRETE WALK REMOVAL
- CONCRETE APPROACH NOSE REMOVAL
- BRIDGE APPROACH PANEL REMOVAL
- BRIDGE REMOVAL
- CONCRETE SLOPE PAVING REMOVAL
- or TREE REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- CONSTRUCTION LIMITS

0 25 50 100
SCALE IN FEET

REMOVAL NOTES

REFER TO TMS PLANS FOR TMS REMOVALS.

REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: RM-HWY01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

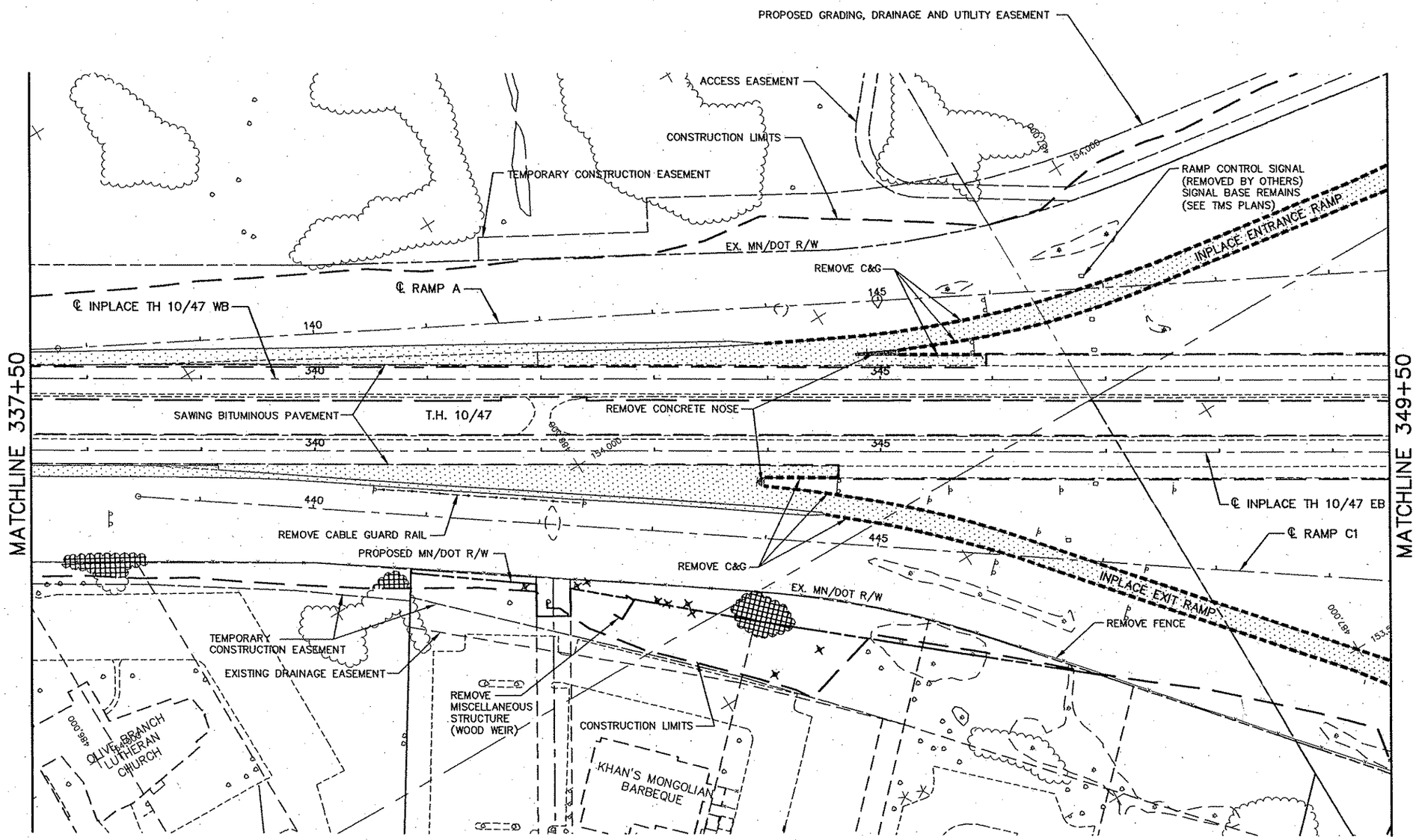
REMOVAL PLAN

HIGHWAY 10/47 AND RAMPS A-D
STATION 327+36.31 TO STATION 337+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 131 / 681

PLOT DATE: Jan .07 10:13am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-RM.dwg



REMOVAL LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- BITUMINOUS SURFACING REMOVAL
- MILL BITUMINOUS SURFACE (2")
- CONCRETE DRIVEWAY APRON REMOVAL
- CONCRETE WALK REMOVAL
- CONCRETE APPROACH NOSE REMOVAL
- BRIDGE APPROACH PANEL REMOVAL
- BRIDGE REMOVAL
- CONCRETE SLOPE PAVING REMOVAL
- or TREE REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- CONSTRUCTION LIMITS

0 25 50 100
SCALE IN FEET

REMOVAL NOTES

REFER TO TMS PLANS FOR TMS REMOVALS.

REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: RM-HWY02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
REMOVAL PLAN
HIGHWAY 10/47 AND RAMPS A-D
STATION 337+50.00 TO STATION 349+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 132
4 OF 681

PLOT DATE: Jan .07 10:13am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-RM.dwg

REMOVE CONCRETE WALK
REMOVE GUARD RAIL–PLATE BEAM
TEMPORARY CONSTRUCTION EASEMENT
ACCESS EASEMENT
EX. MN/DOT R/W
INPLACE ENTRANCE RAMP
REMOVE C&G
REMOVE CONCRETE WALK
REMOVE CONCRETE NOSE
REMOVE C&G
REMOVE CONCRETE WALK
℄ CONNECTION A
652
REMOVE GUARD RAIL–PLATE BEAM
150
℄ RAMP A
752
HANSON BOULEVARD
REMOVE CONCRETE WALK
REMOVE C&G
REMOVE CONCRETE WALK
REMOVE CONCRETE WALK
REMOVE C&G
℄ CONNECTION B
REMOVE GUARD RAIL–PLATE BEAM
℄ RAMP B1
REMOVE CONCRETE SLOPE PAVING (INCIDENTAL)
REMOVE GUARD RAIL–PLATE BEAM
153.500
INPLACE EXIT RAMP
REMOVE C&G
260
℄ RAMP B2
℄ INPLACE TH 10/47 WB
350
355
360
MATCHLINE 349+50
MATCHLINE 361+50
REMOVE GUARD RAIL–PLATE BEAM
T.H. 10/47
SAWING BITUMINOUS PAVEMENT
SAWING BITUMINOUS PAVEMENT
REMOVE CONCRETE SLOPE PAVING (INCIDENTAL)
℄ INPLACE TH 10/47 EB
℄ RAMP D
REMOVE GUARD RAIL–PLATE BEAM
555
560
153.000
℄ RAMP C2
REMOVE GUARD RAIL–PLATE BEAM
450
REMOVE C&G
955
℄ CONNECTION D
RAMP CONTROL SIGNAL (SEE TMS PLANS)
EX. MN/DOT R/W
℄ RAMP C1
℄ CONNECTION C
REMOVE CONCRETE WALK
REMOVE CONCRETE NOSE
REMOVE C&G
INPLACE ENTRANCE RAMP
REMOVE C&G
CONSTRUCTION LIMITS
TEMPORARY CONSTRUCTION EASEMENT
INPLACE EXIT RAMP
REMOVE CONCRETE WALK
REMOVE C&G
REMOVE FENCE
END FENCE REMOVAL
EX. MN/DOT R/W
REMOVE CONCRETE WALK
REMOVE C&G
153.000
ABRA AUTO BODY
METRO MOLDED PARTS
CONSTRUCTION LIMITS
EX. MN/DOT R/W
JAY ST.
153.500

REMOVAL LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- BITUMINOUS SURFACING REMOVAL
- MILL BITUMINOUS SURFACE (2")
- CONCRETE DRIVEWAY APRON REMOVAL
- CONCRETE WALK REMOVAL
- CONCRETE APPROACH NOSE REMOVAL
- BRIDGE APPROACH PANEL REMOVAL
- BRIDGE REMOVAL
- CONCRETE SLOPE PAVING REMOVAL
- or TREE REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- CONSTRUCTION LIMITS

0 25 50 100
SCALE IN FEET

REMOVAL NOTES

REFER TO TMS PLANS FOR TMS REMOVALS.

REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: PMJ | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: RM–HWY03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

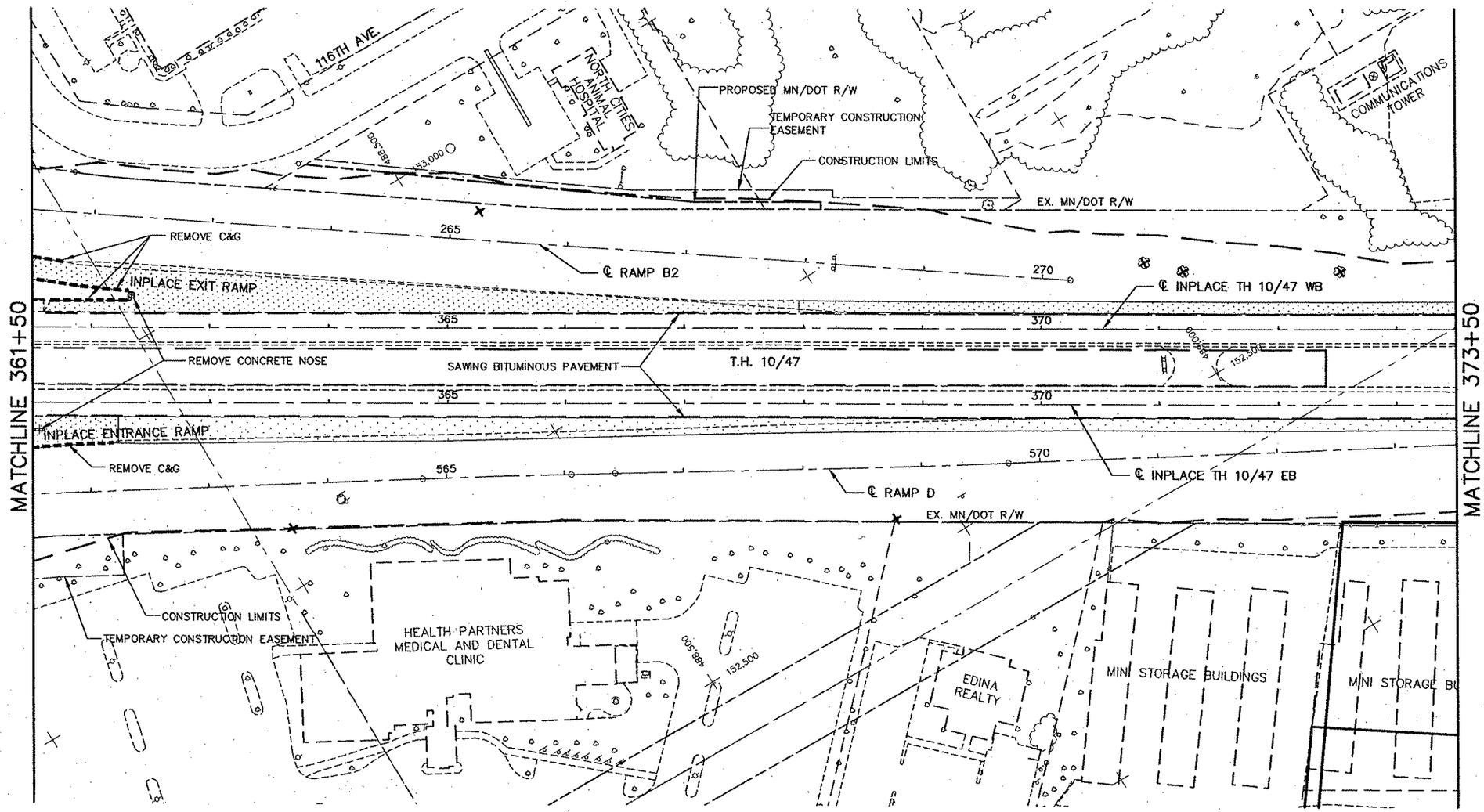
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
REMOVAL PLAN
HIGHWAY 10/47 AND RAMPS A–D
STATION 349+50.00 TO STATION 361+50.00

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 133 / 681

PLOT DATE: Jan 07 10:13am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-RM.dwg



REMOVAL LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- BITUMINOUS SURFACING REMOVAL
- MILL BITUMINOUS SURFACE (2")
- CONCRETE DRIVEWAY APRON REMOVAL
- CONCRETE WALK REMOVAL
- CONCRETE APPROACH NOSE REMOVAL
- BRIDGE APPROACH PANEL REMOVAL
- BRIDGE REMOVAL
- CONCRETE SLOPE PAVING REMOVAL
- or TREE REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- CONSTRUCTION LIMITS

0 25 50 100
SCALE IN FEET

REMOVAL NOTES

REFER TO TMS PLANS FOR TMS REMOVALS.

REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

6 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: RM-HWY04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

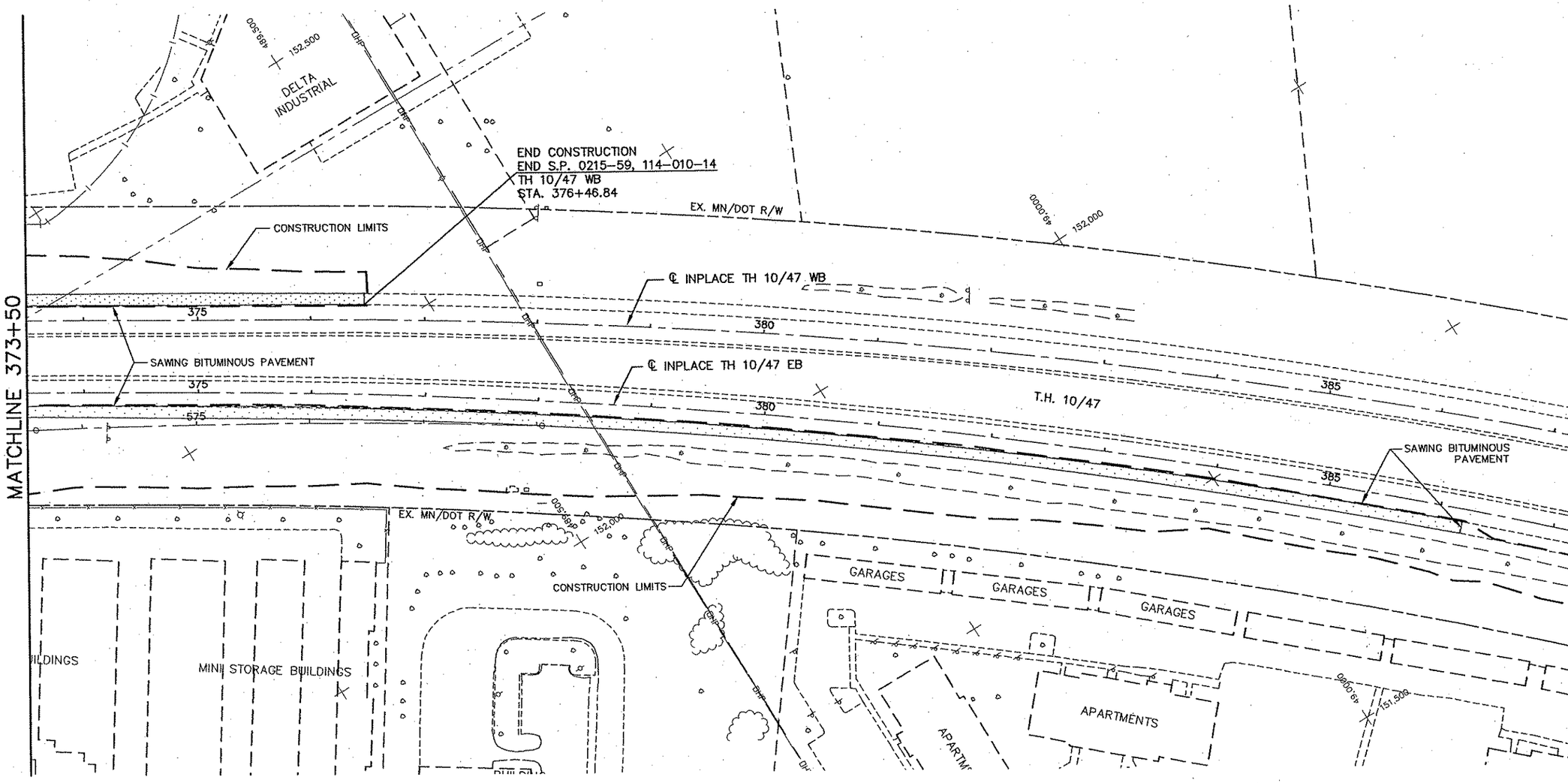
REMOVAL PLAN

HIGHWAY 10/47 AND RAMPS A-D
STATION 361+50.00 TO STATION 373+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 134 / 681

PLOT DATE: Jan 07 10:13am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-RM.dwg



REMOVAL LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- BITUMINOUS SURFACING REMOVAL
- MILL BITUMINOUS SURFACE (2")
- CONCRETE DRIVEWAY APRON REMOVAL
- CONCRETE WALK REMOVAL
- CONCRETE APPROACH NOSE REMOVAL
- BRIDGE APPROACH PANEL REMOVAL
- BRIDGE REMOVAL
- CONCRETE SLOPE PAVING REMOVAL
- or TREE REMOVAL
- CONCRETE CURB AND GUTTER REMOVAL
- CONSTRUCTION LIMITS

0 25 50 100
SCALE IN FEET

REMOVAL NOTES

REFER TO TMS PLANS FOR TMS REMOVALS.

REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

THERE ARE NO REMOVALS BETWEEN STATION 386+20.49 AND 392+22.83.

END CONSTRUCTION
END S.P. 0215-59, 114-010-14
TH 10/47 EB STA. 392+22.83

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: JRM
CHKED. BY: SAW
DWG. NAME: RM-HWY05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

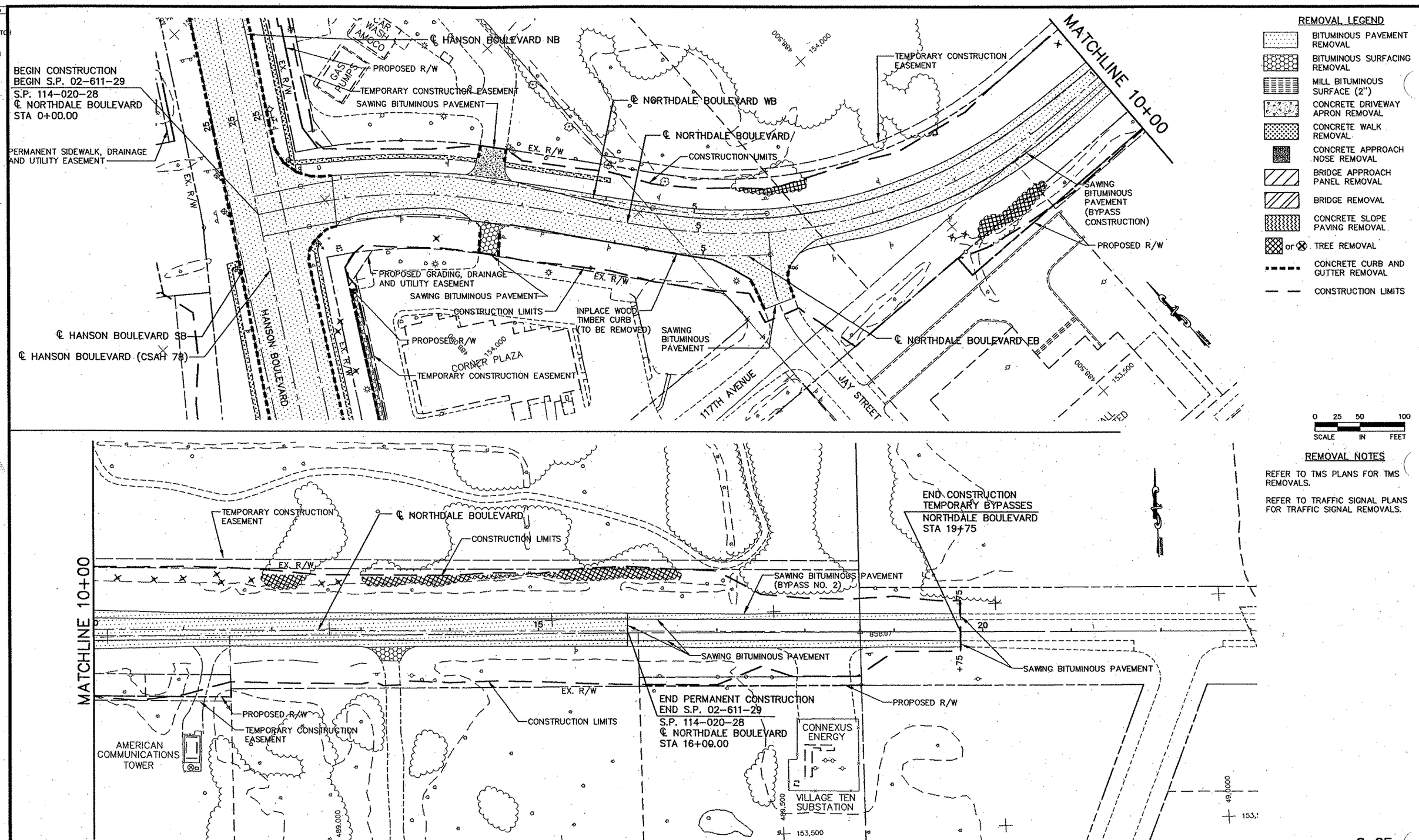
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
REMOVAL PLAN
HIGHWAY 10/47 AND RAMPS A-D
STATION 373+50.00 TO STATION 386+20.49

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 135 / 681

PLOT DATE: Jan 07 10:13am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-RM 5.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: RM-NNDALE01
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

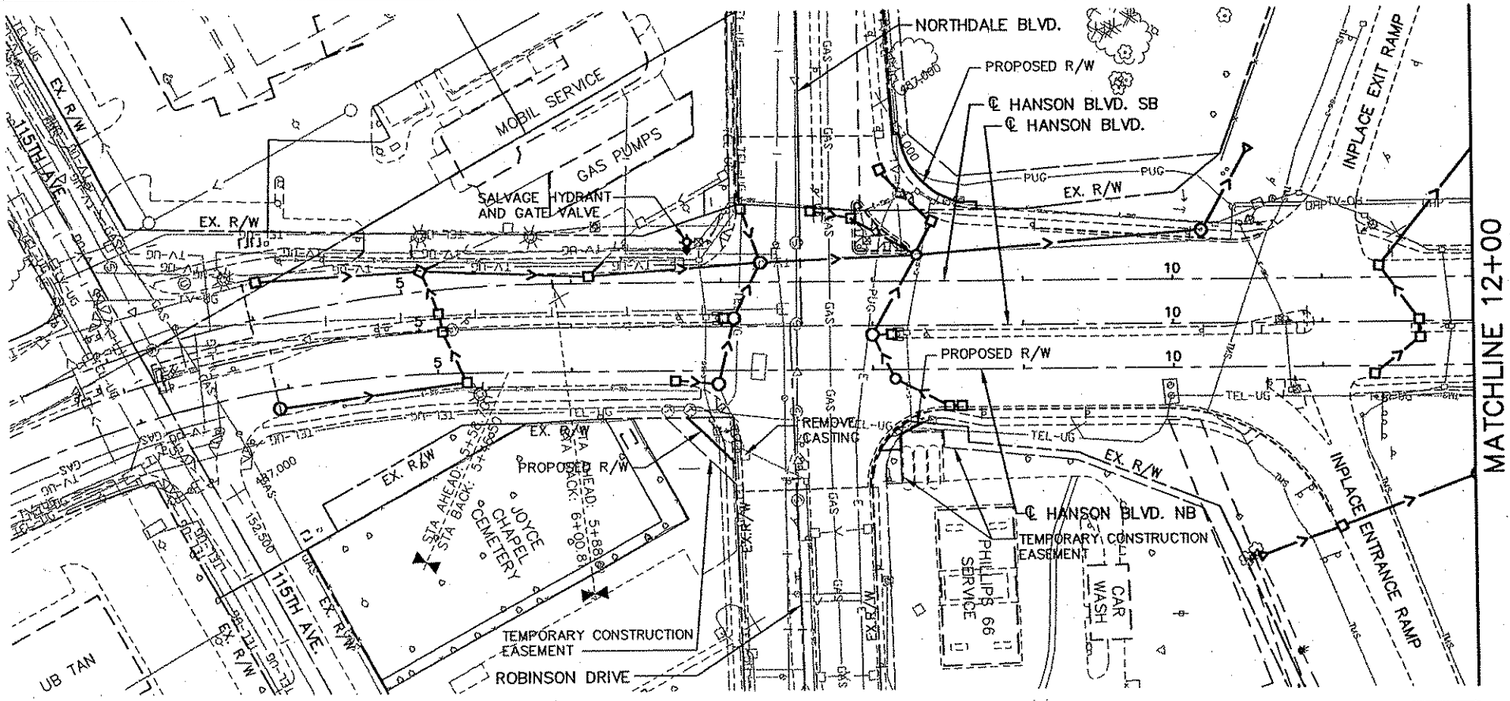
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
REMOVAL PLAN
NORTHDALE BOULEVARD (CSAH 11)
STATION 0+00.00 TO STATION 19+75.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 136
8 OF 681

PLOT DATE: Jan 07 10:13am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-RM-E01.dwg



LEGEND

- STORM SEWER/CULVERT TO REMOVE
- STORM SEWER/CULVERT TO REMAIN
- DRAINAGE STRUCTURE TO REMOVE
- DRAINAGE STRUCTURE TO REMAIN
- WATERMAIN TO REMOVE
- WATERMAIN TO REMAIN

0 25 50 100
SCALE IN FEET

DRAINAGE REMOVAL NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP.

1 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ
DESIGN BY: JCD
CHKED. BY: SAW
DWG. NAME: RMST-HNSN01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

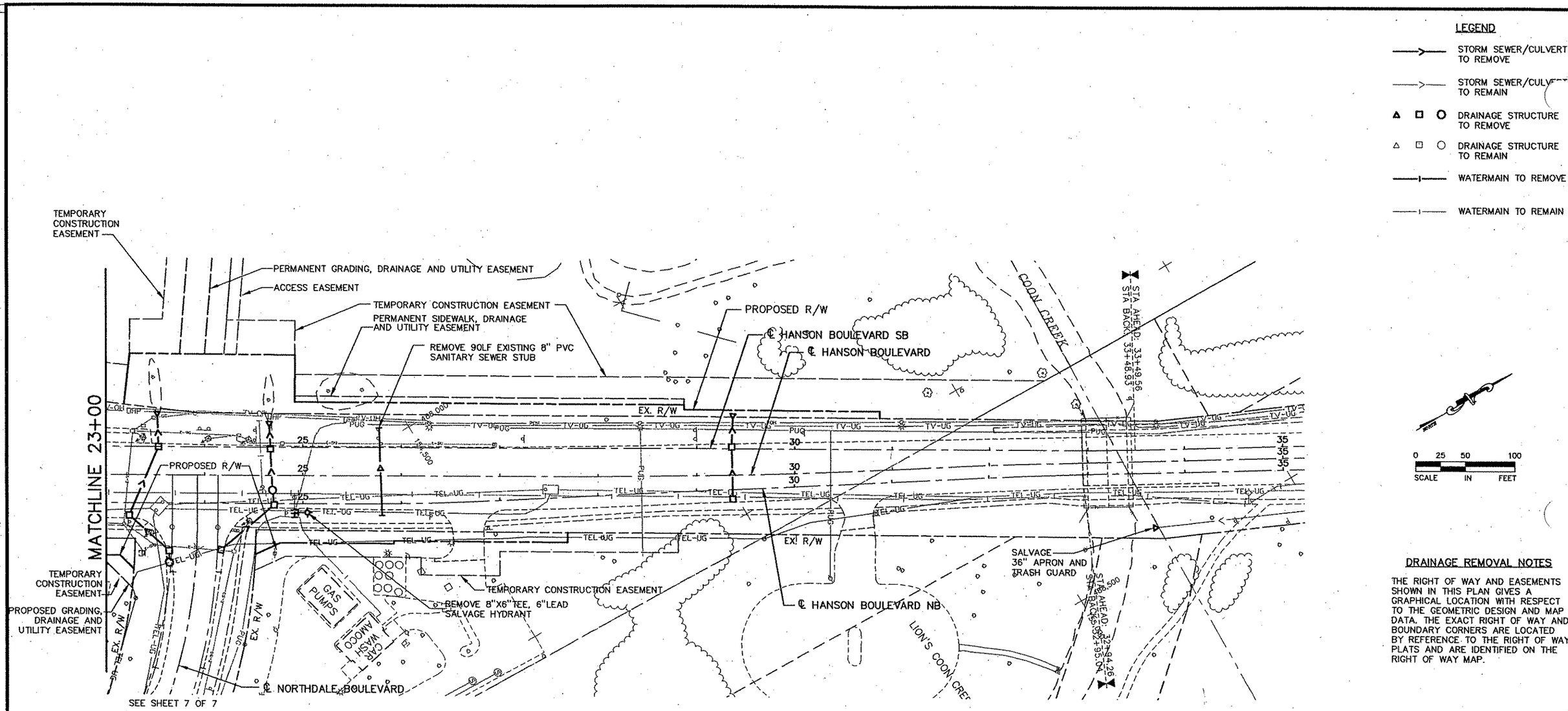
TH 10/HANSON BOULEVARD INTERCHANGE
HANSON BOULEVARD
DRAINAGE & PUBLIC UTILITY REMOVAL PLAN
STATION 3+16.41 TO STATION 23+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 137 / 681

PLOT DATE: Jan 07 10:14am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-RM...n01.dwg

NSN-PCO
RD-ESM
NSN-ETO
NSN-EUT
NSN-ALI
NSN-CON-LIM
EF-DWG-BDR
NSN-ESU
2x34bdr



LEGEND

- STORM SEWER/CULVERT TO REMOVE
- STORM SEWER/CULVERT TO REMAIN
- DRAINAGE STRUCTURE TO REMOVE
- DRAINAGE STRUCTURE TO REMAIN
- WATERMAIN TO REMOVE
- WATERMAIN TO REMAIN

DRAINAGE REMOVAL NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP.

2 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ
DESIGN BY: JCD
CHKED. BY: SAW
DWG. NAME: RMST-HNSN02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

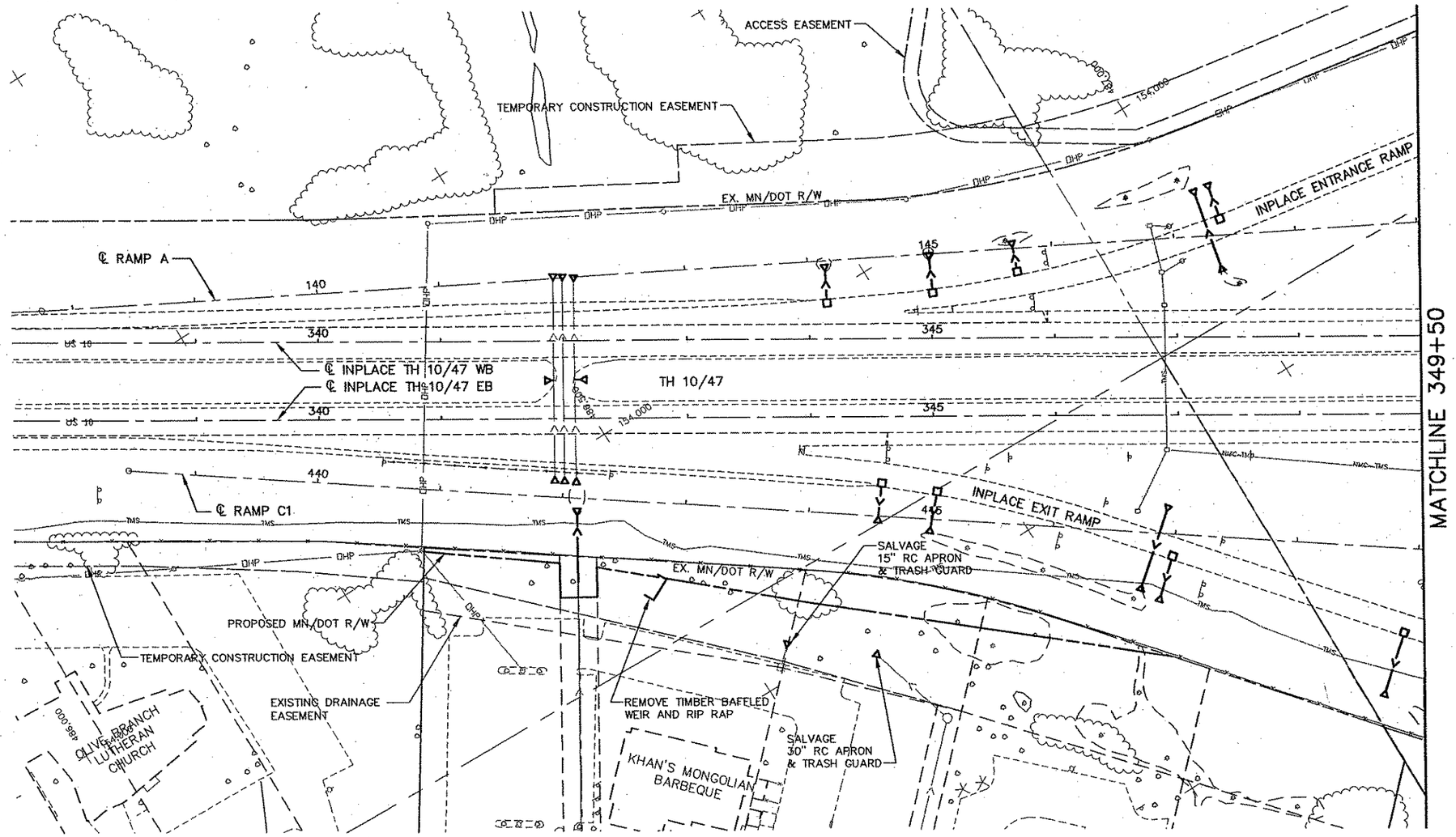
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
HANSON BOULEVARD
DRAINAGE & PUBLIC UTILITY REMOVAL PLAN
STATION 23+00.00 TO STATION 34+34.41

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 138 / 681

PLOT DATE: J 2007 10:14am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-R sn02.dwg



LEGEND

- STORM SEWER/CULVERT TO REMOVE
- STORM SEWER/CULVERT TO REMAIN
- DRAINAGE STRUCTURE TO REMOVE
- DRAINAGE STRUCTURE TO REMAIN
- WATERMAIN TO REMOVE
- WATERMAIN TO REMAIN

0 25 50 100
SCALE IN FEET

DRAINAGE REMOVAL NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: RMST-HWY02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

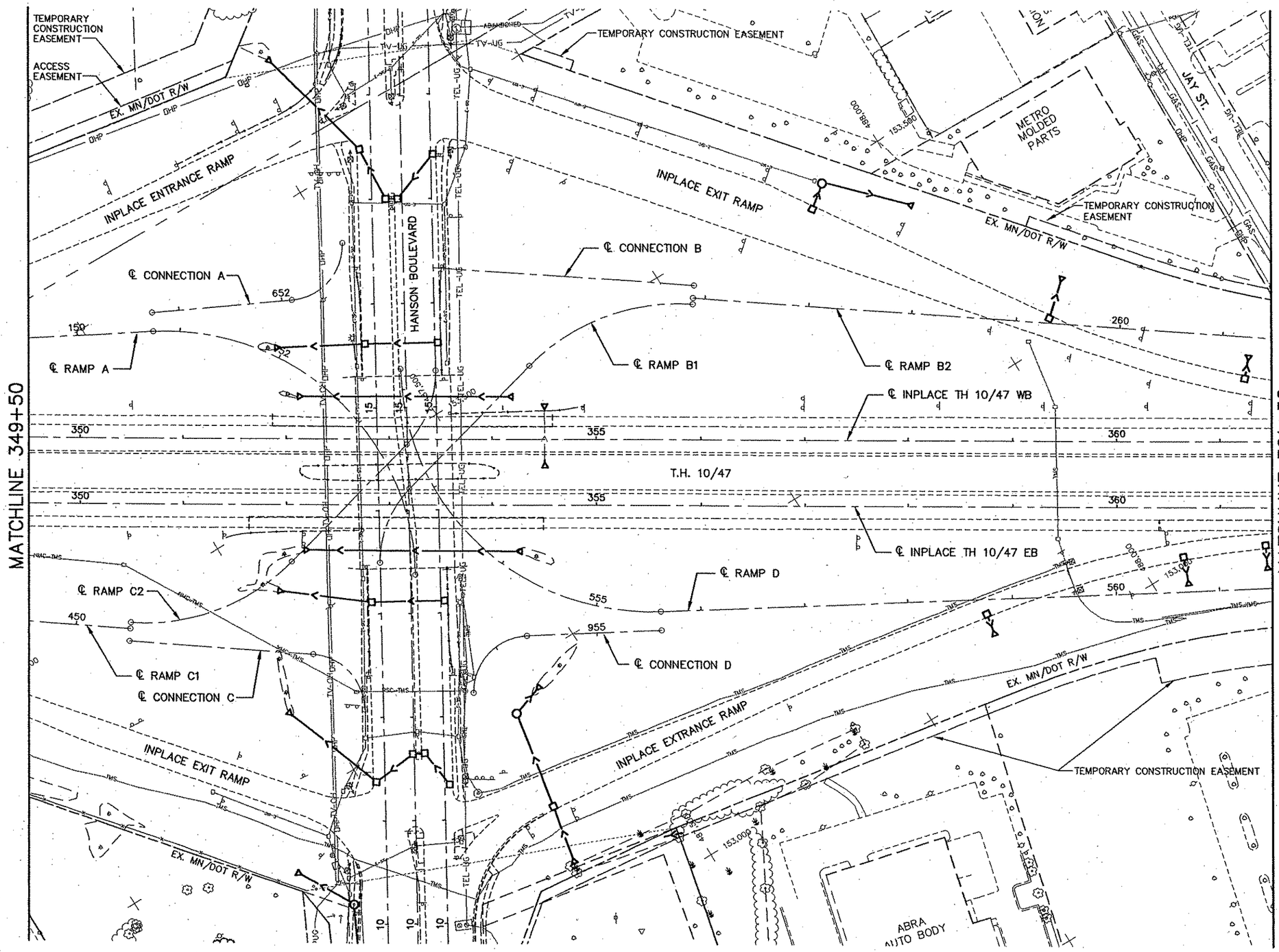
HIGHWAY 10/47 AND RAMPS A-D

DRAINAGE & PUBLIC UTILITY REMOVAL PLAN
STATION 337+50.00 TO STATION 349+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 139 / 681

PLOT DATE: JC 2007 10:14am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-F_WY02.dwg



LEGEND

- STORM SEWER/CULVERT TO REMOVE
- STORM SEWER/CULVE TO REMAIN
- DRAINAGE STRUCTURE TO REMOVE
- DRAINAGE STRUCTURE TO REMAIN
- WATERMAIN TO REMOVE
- WATERMAIN TO REMAIN

0 25 50 100
SCALE IN FEET

DRAINAGE REMOVAL NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: RMST-HWY03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

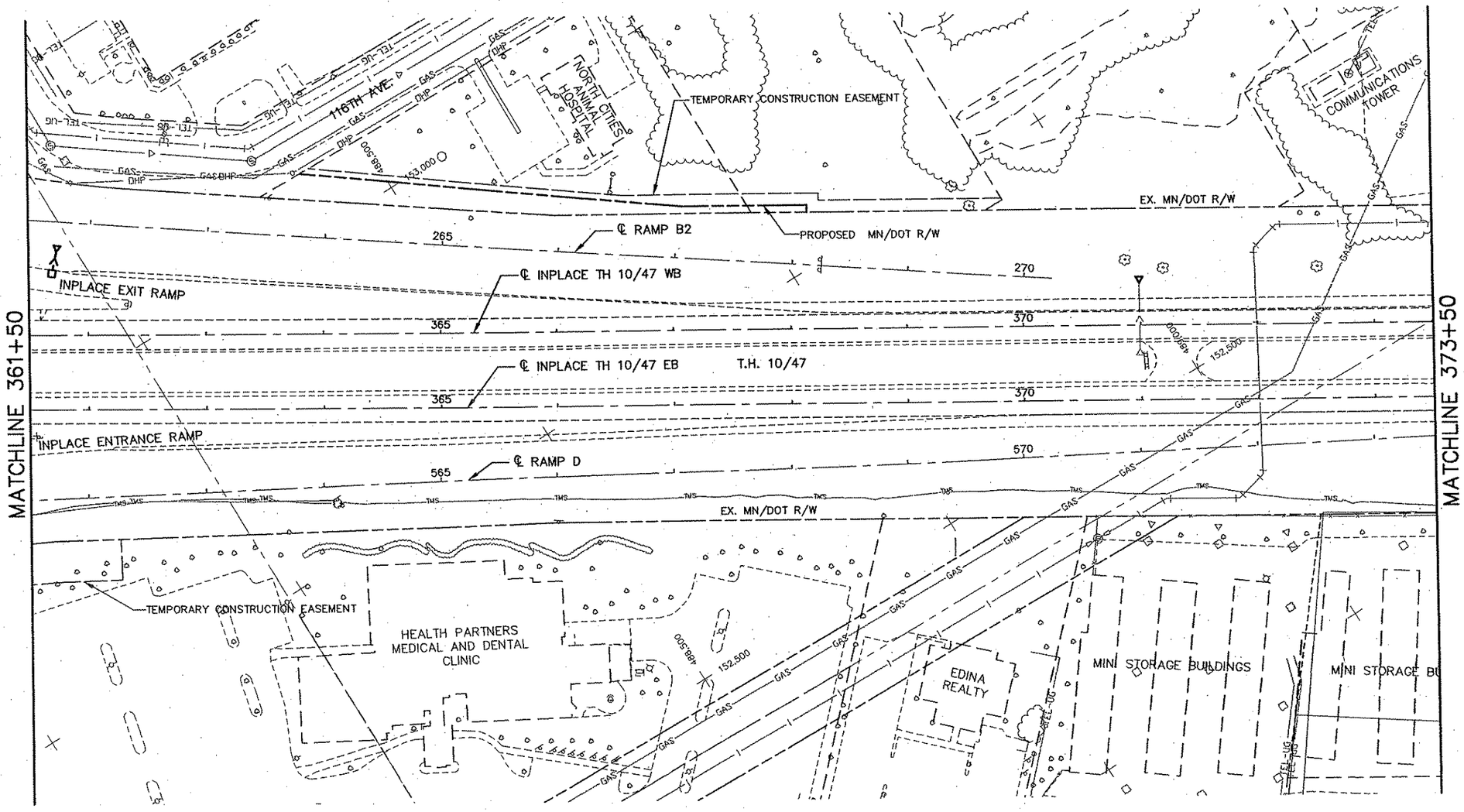
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
HIGHWAY 10/47 AND RAMPS A-D
DRAINAGE & PUBLIC UTILITY REMOVAL PLAN
STATION 349+50.00 TO STATION 361+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 140 / 681
4 OF

PLOT DATE: 2007 10:14am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-RMST-HWY03.dwg



LEGEND

- STORM SEWER/CULVERT TO REMOVE
- STORM SEWER/CULVERT TO REMAIN
- DRAINAGE STRUCTURE TO REMOVE
- DRAINAGE STRUCTURE TO REMAIN
- WATERMAIN TO REMOVE
- WATERMAIN TO REMAIN

DRAINAGE REMOVAL NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: RMST-HWY04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 AND RAMPS A-D

DRAINAGE & PUBLIC UTILITY REMOVAL PLAN
STATION 361+50.00 TO STATION 373+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 141 / 681

PLOT DATE: Ja 2007 10:14am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-R
ISN-PCO
ID-ESM
ISN-EUT
ISN-ETO
ISN-AU
ISN-CON-LIM
F-DWG-BDR

ISN-PCO
ID-ESM
ISN-EUT
ISN-ETO
ISN-ALI
ISN-CON-UM
F-DWG-BDR
ISN-ESU
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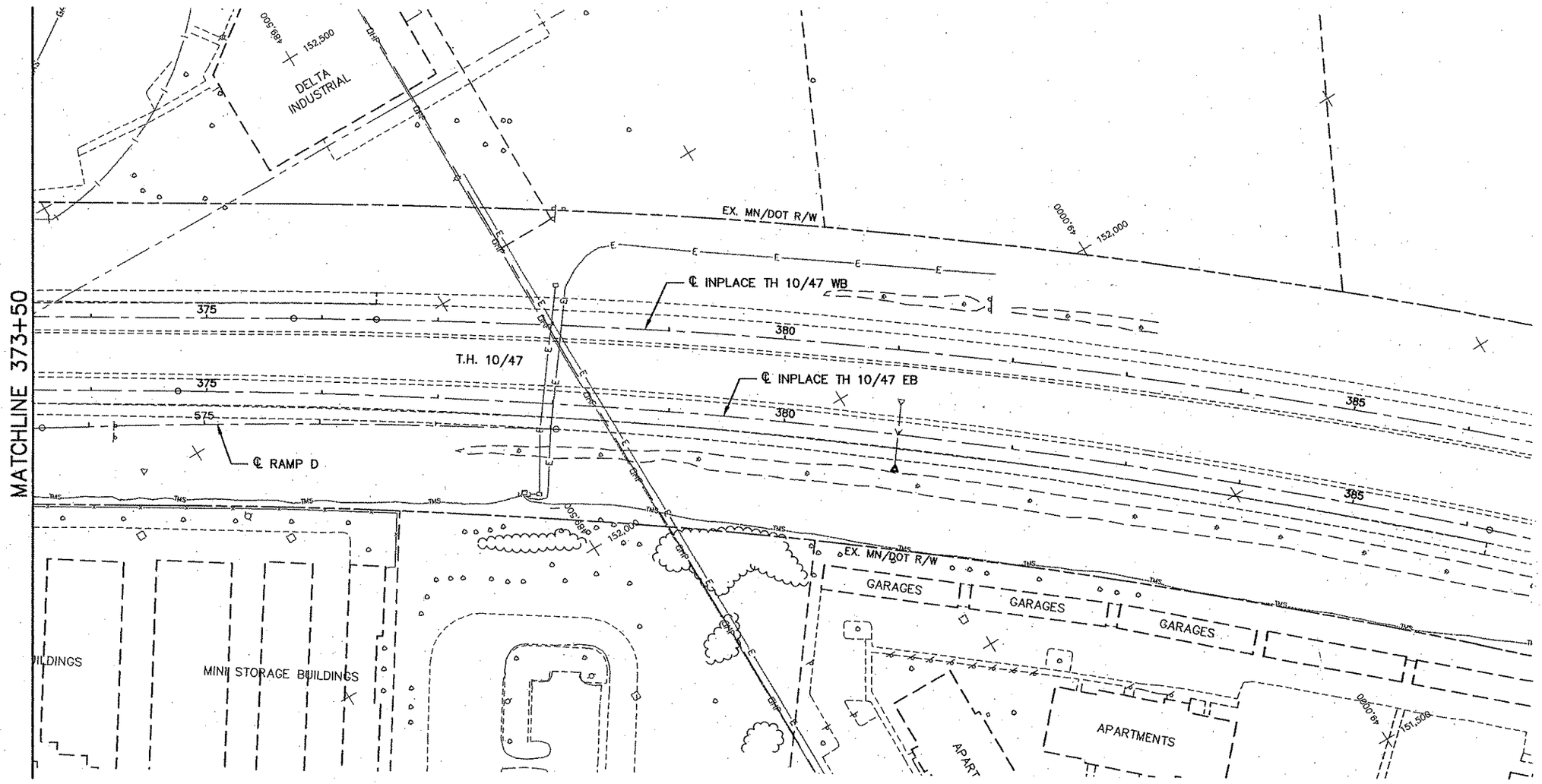

LEGEND

- STORM SEWER/CULVERT TO REMOVE
- STORM SEWER/CULVERT TO REMAIN
- DRAINAGE STRUCTURE TO REMOVE
- DRAINAGE STRUCTURE TO REMAIN
- WATERMAIN TO REMOVE
- WATERMAIN TO REMAIN

0 25 50 100
SCALE IN FEET

DRAINAGE REMOVAL NOTES

THE RIGHT OF WAY AND EASEMENTS SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: RMST-HWY05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 AND RAMPS A-D

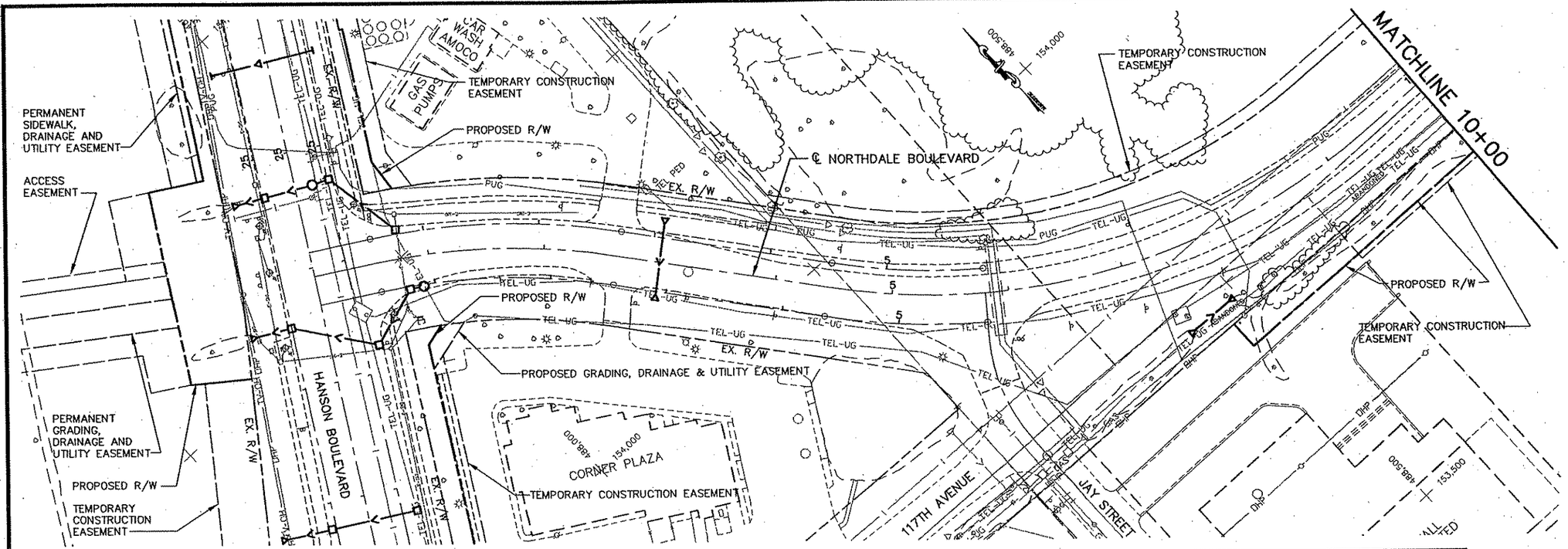
DRAINAGE & PUBLIC UTILITY REMOVAL PLAN
STATION 373+50.00 TO STATION 386+20.49

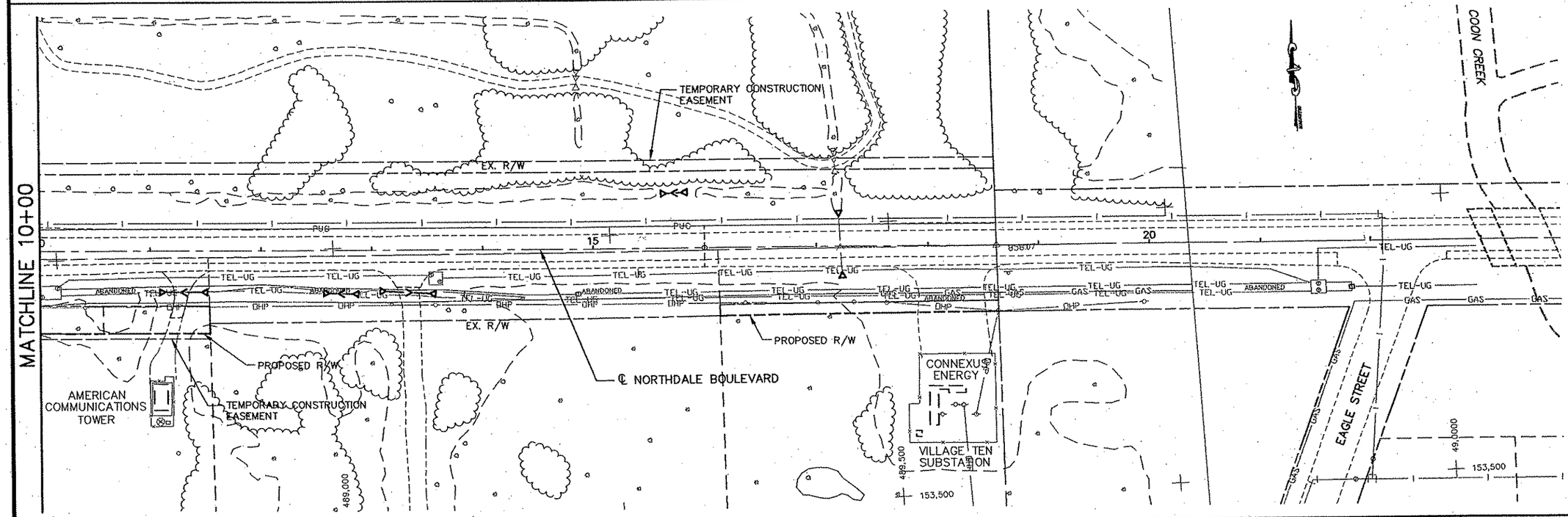
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 142 / 681

6 OF

PLOT DATE: Jan 2007 10:14am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRO-CONST\042-RI...yr05.dwg





LEGEND

- STORM SEWER/CULVERT TO REMOVE
- STORM SEWER/CULVERT TO REMAIN
- DRAINAGE STRUCTURE TO REMOVE
- DRAINAGE STRUCTURE TO REMAIN
- WATERMAIN TO REMOVE
- WATERMAIN TO REMAIN

SCALE 0 25 50 100 IN FEET

DRAINAGE REMOVAL NOTES

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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: RMST-NNDALE01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

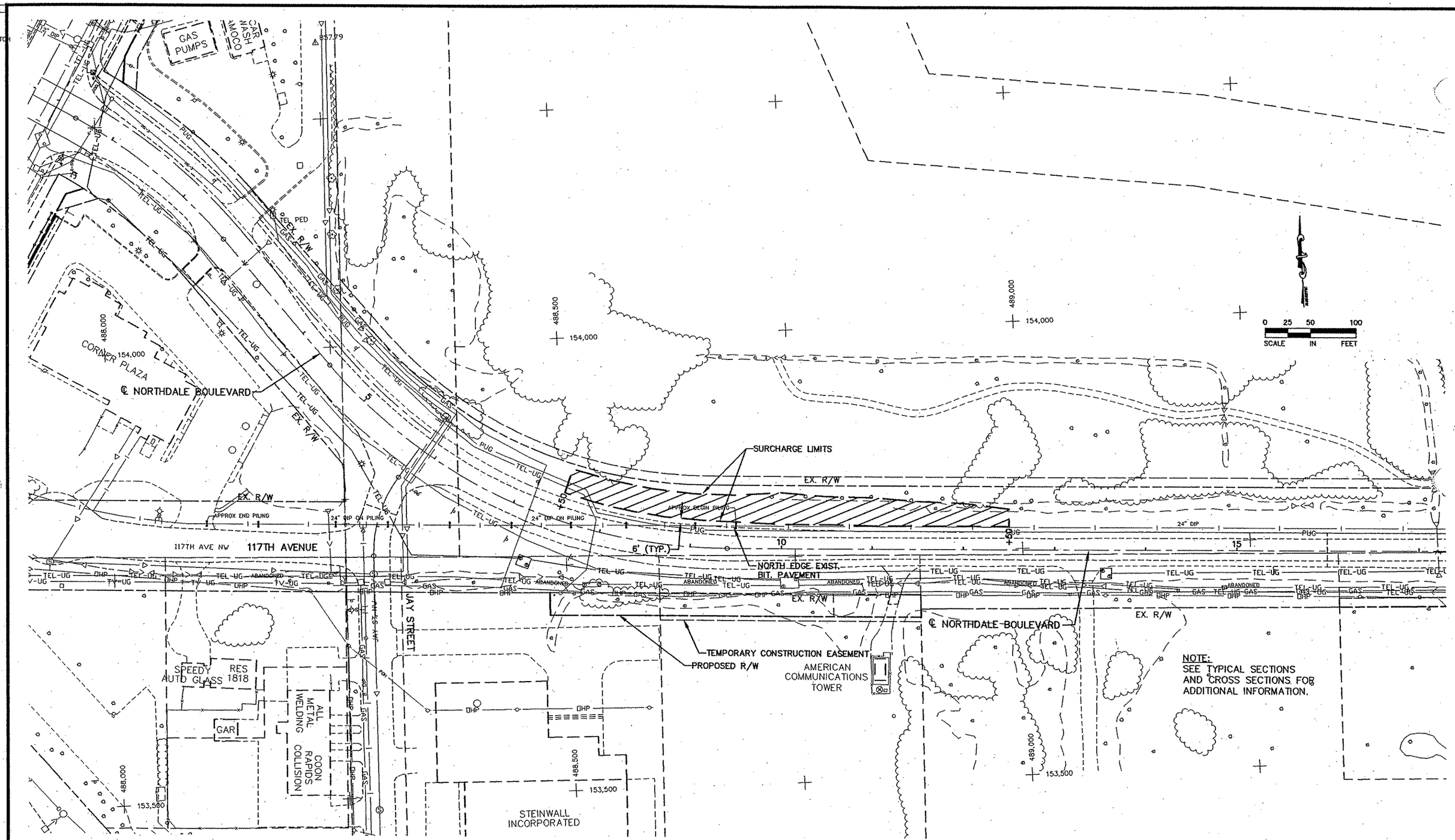
NORTHDALE BOULEVARD (CSAH 11)

DRAINAGE & PUBLIC UTILITY REMOVAL PLAN
STATION 0+00.00 TO STATION 19+75.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 143 / 681

PLOT DATE: Jc. 2007 10:14am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRO-CONST\042-R NDALE01.dwg



NOTE:
SEE TYPICAL SECTIONS AND CROSS SECTIONS FOR ADDITIONAL INFORMATION.

1 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: KJM
DESIGN BY: JRM
CHKED. BY: SAW
DWG. NAME: SUR-NNDALE01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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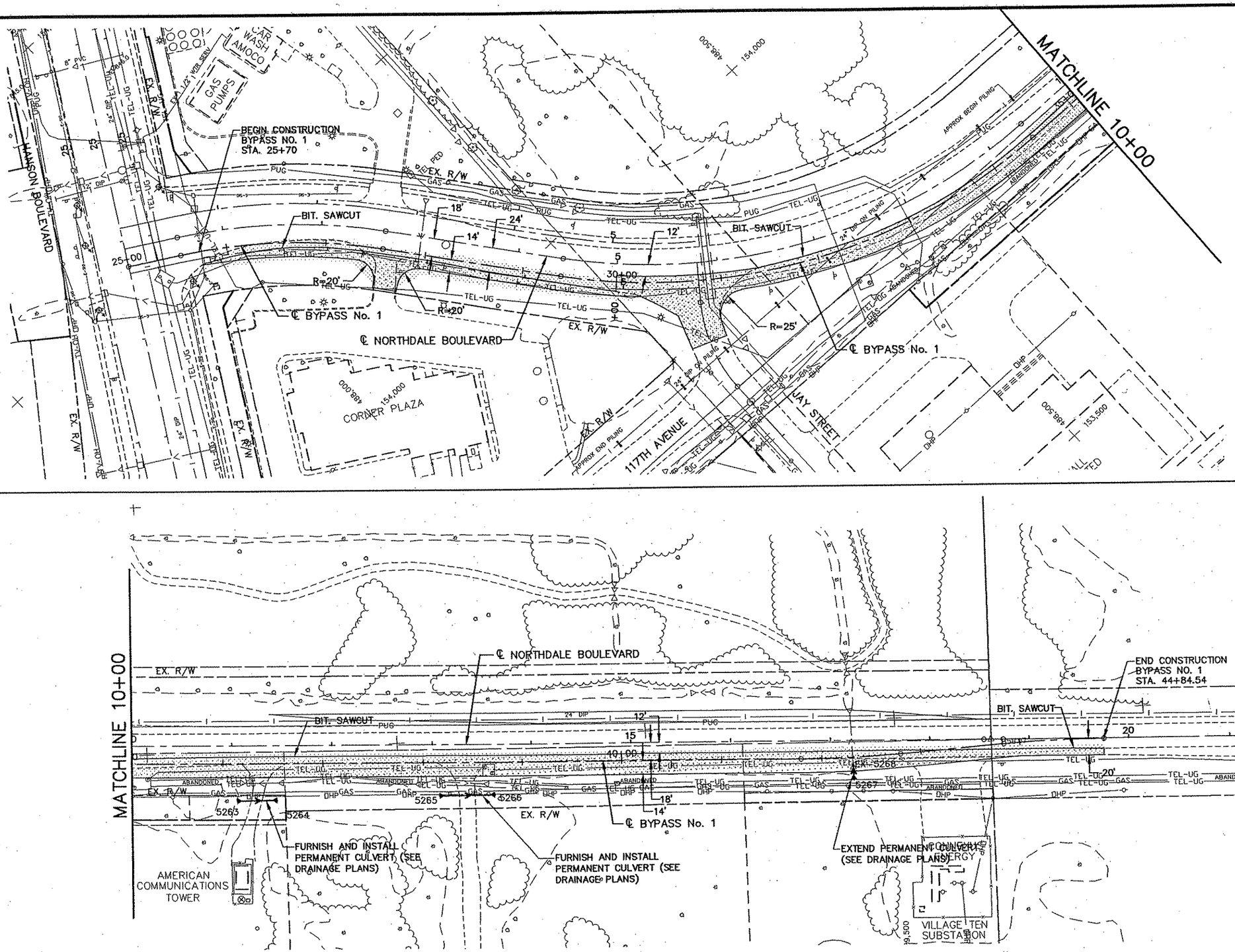
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
SURCHARGE PLAN
NORTHDALE BOULEVARD (CSAH 11)
STATION 7+50.00 TO STATION 12+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 144 / 681

PLOT DATE: Ja... 2007 10:17am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-S...NDALE01.dwg



LEGEND

TEMPORARY PAVEMENT INSET F

NOTE:

1.) SEE DRAINAGE PLANS FOR CULVERT INSTALLATION INFORMATION

1 OF 2

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY:	KJM
DESIGN BY:	JRM
CHKED. BY:	SAW
DWG. NAME:	BY-NNDALE01
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

BYPASS No. 1 PLAN

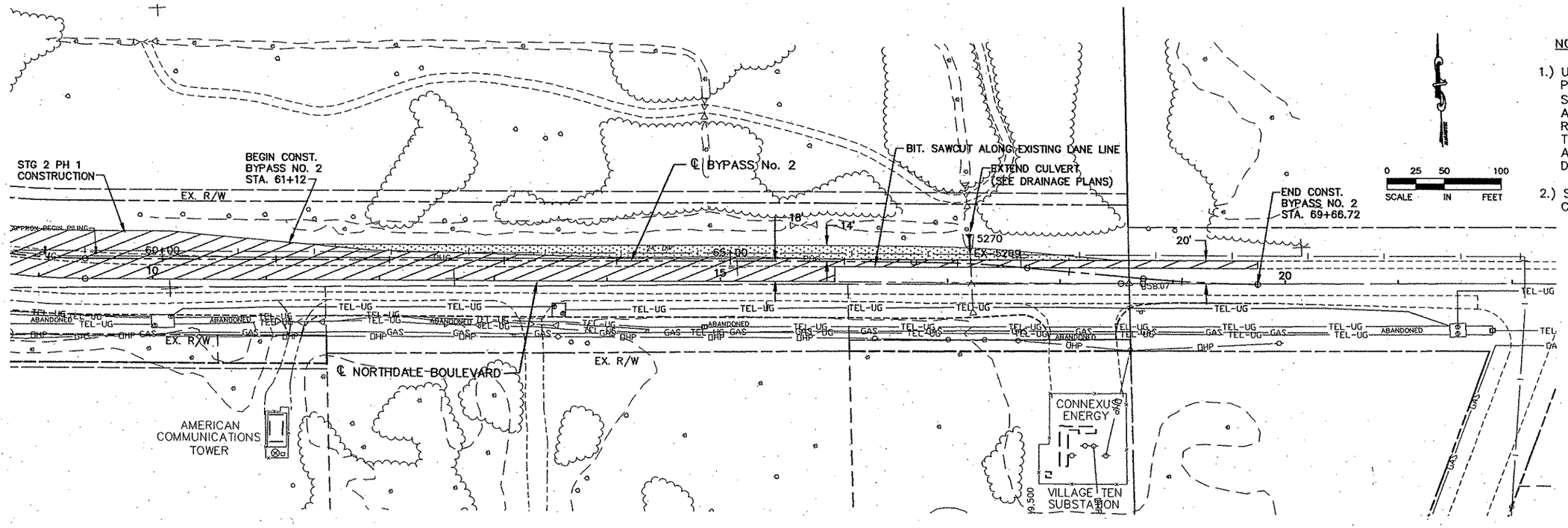
NORTHDALE BOULEVARD (CSAH 11)
STATION 25+70.00 TO STATION 44+84.54

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 145 / 681

PLOT DATE: Jan 2007 9:38am DISK FILE NAME: (16.1) R:\33869\33889042\PLAN-SHT\PRO-CONST\042-BYALE01.dwg

Drawings
TG2P1_MASK
TG2P1
ISN-EUT
D-ESM
ISN-PCO-HATCH
ISN-ETO
ISN-AU
F-DWG-BDR
ISN-ESU
x34bdr



LEGEND

TEMPORARY PAVEMENT
INSET F

PERMANENT CONSTRUCTION
INSET A

NOTES:

1.) UPON COMPLETION OF STAGE 2 PHASE 2 WORK, CONTRACTOR TO SAWCUT BITUMINOUS (FULL DEPTH) ALONG NORTH EDGE OF PERMANENT ROADWAY SHOULDER, REMOVE TEMPORARY PAVEMENT, GRADE DITCH, AND RESTORE GRAVEL SHOULDER, DITCH, AND SLOPES.

2.) SEE DRAINAGE PLANS FOR CULVERT INSTALLATION INFORMATION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: KJM | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: BY-NNDALE02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

BYPASS No. 2 PLAN

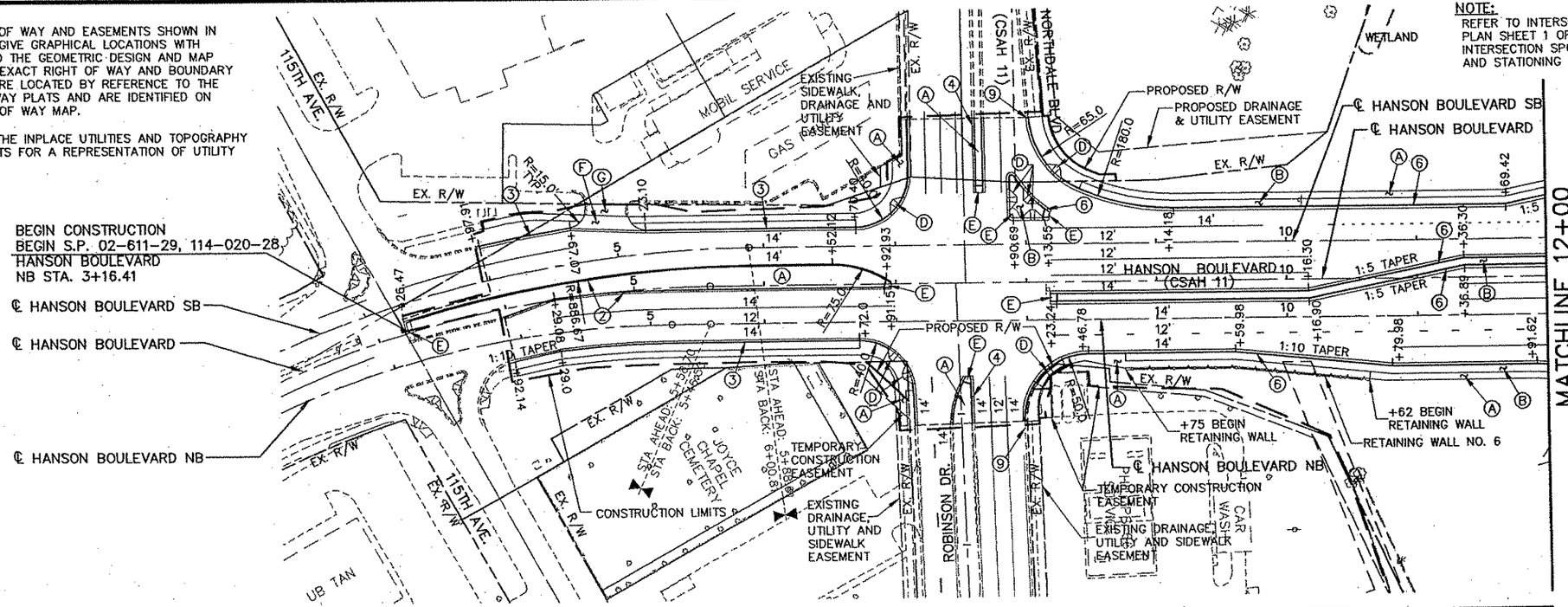
NORTHDALE BOULEVARD (CSAH 11)
STATION 61+12 TO STATION 69+66.72

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

PLOT DATE: Jan 2007 9:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-B02.dwg

NOTE:
THE RIGHT OF WAY AND EASEMENTS SHOWN IN THIS PLAN GIVE GRAPHICAL LOCATIONS WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP.

REFER TO THE INPLACE UTILITIES AND TOPOGRAPHY PLAN SHEETS FOR A REPRESENTATION OF UTILITY LOCATIONS.



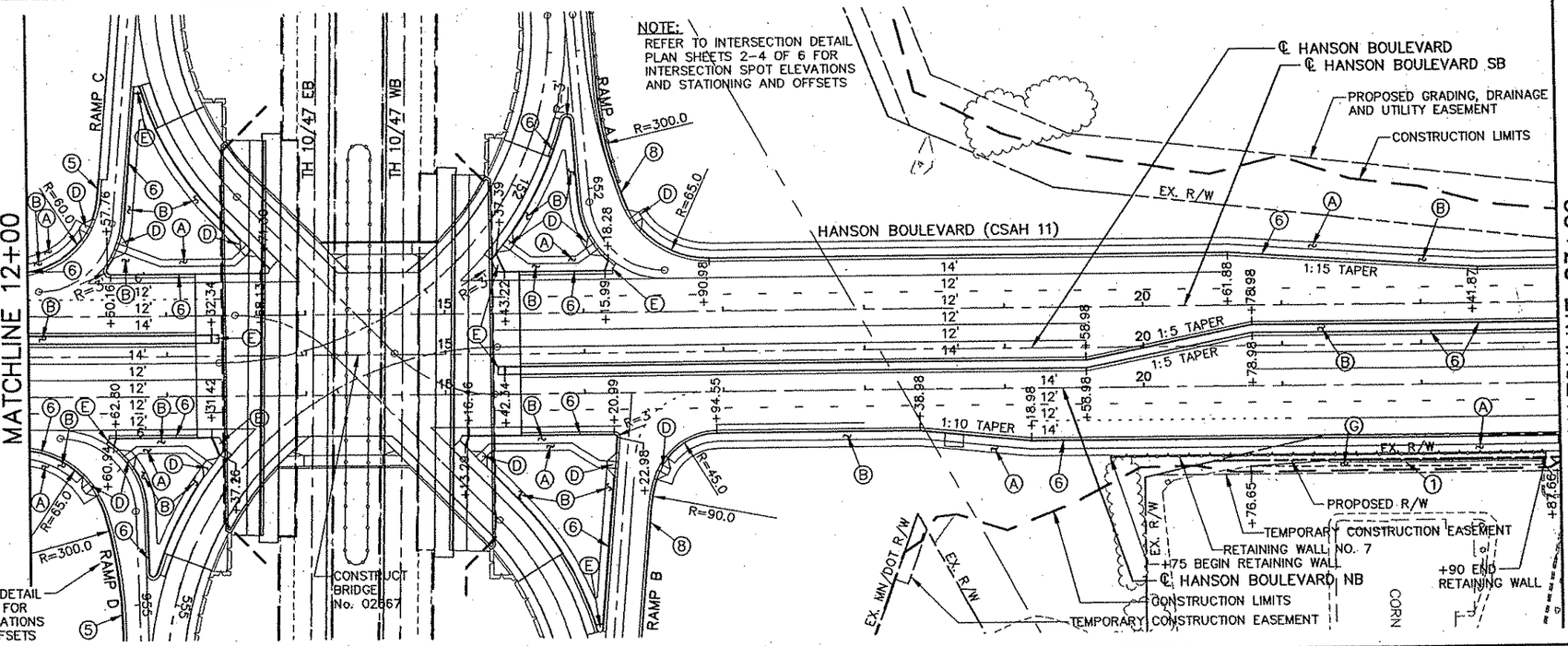
NOTE:
REFER TO INTERSECTION DETAIL PLAN SHEET 1 OF 6 FOR INTERSECTION SPOT ELEVATIONS AND STATIONING AND OFFSETS

CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) CONCRETE WALK – SPECIAL 1
- (C) RESTORE GRAVEL DRIVEWAY
- (D) TRUNCATED DOME PEDESTRIAN CURB RAMP, DETAIL SHEET 51
- (E) CONSTRUCT CONCRETE APPROACH NOSE, STD. PLATE 7113
- (F) COMMERCIAL DRIVE ENTRANCE
- (G) BITUMINOUS SURFACING

- (1) B612 CURB & GUTTER
- (2) B612 CURB & GUTTER – MODIFIED
- (3) B618 CURB & GUTTER
- (4) B618 CURB & GUTTER – MODIFIED
- (5) B624 CURB & GUTTER
- (6) B624 CURB & GUTTER – MODIFIED
- (7) D424 CURB & GUTTER
- (8) B424 CURB & GUTTER
- (9) 10' C&G TRANSITION B624 TO B618

ALL DIMENSIONS ARE TO FACE OF CURB, FACE OF BARRIER, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.



NOTE:
REFER TO INTERSECTION DETAIL PLAN SHEETS 2-4 OF 6 FOR INTERSECTION SPOT ELEVATIONS AND STATIONING AND OFFSETS

NOTE:
REFER TO INTERSECTION DETAIL PLAN SHEETS 2-4 OF 6 FOR INTERSECTION SPOT ELEVATIONS AND STATIONING AND OFFSETS

0 25 50 100
SCALE IN FEET

STATIONING ON NORTHBOUND HANSON BOULEVARD IS BASED ON NORTHBOUND ALIGNMENT.

STATIONING ON SOUTHBOUND HANSON BOULEVARD IS BASED ON SOUTHBOUND ALIGNMENT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ
DESIGN BY: SAW
CHKED. BY: SAW
DWG. NAME: PP-HNS001
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

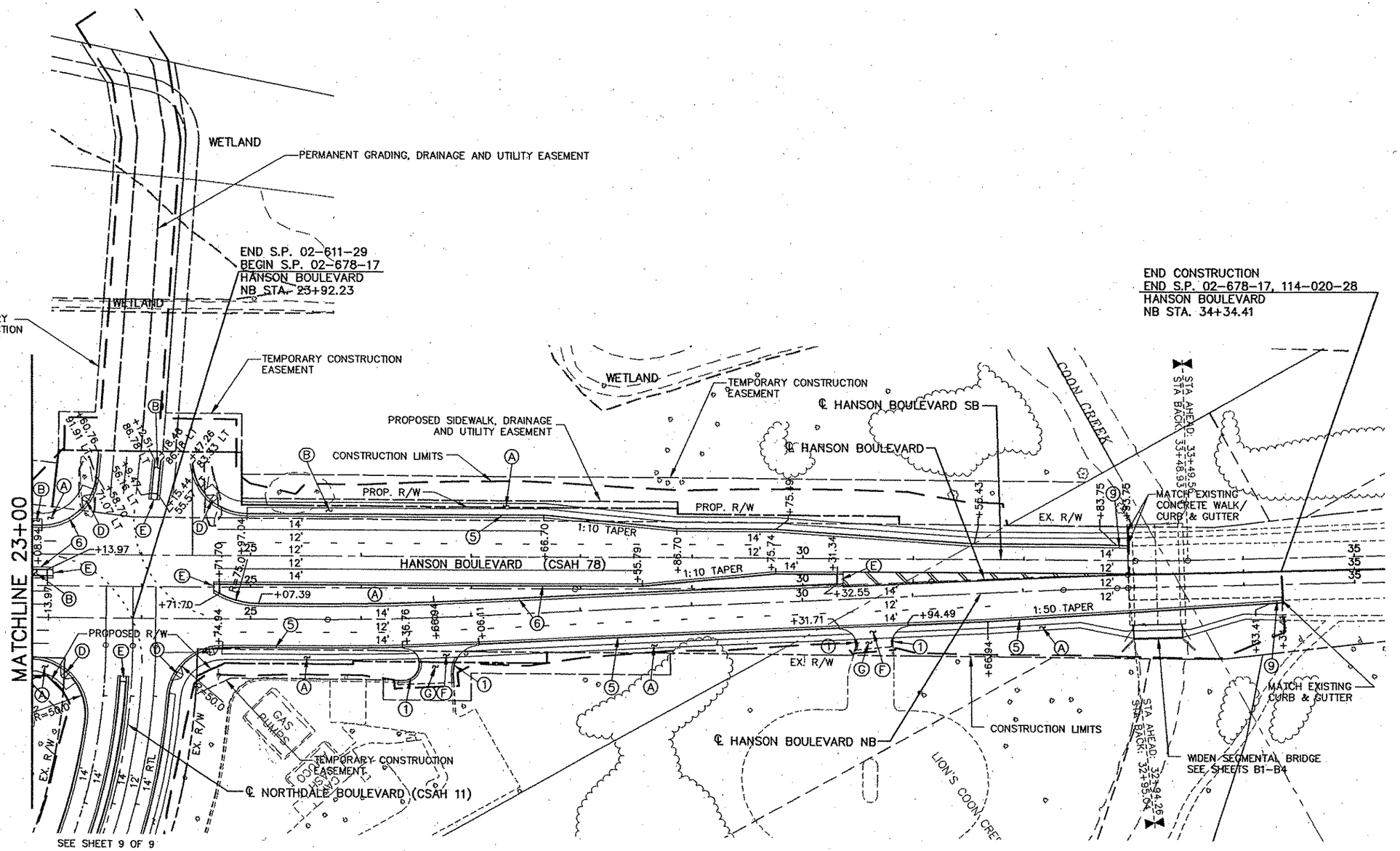
TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PLAN
HANSON BOULEVARD
STATION 3+16.41 TO STATION 23+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 147 / 681

PLOT DATE: Jan 2007 10:11am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-P...01.dwg

Standard Drawings
SN-PUT
D-ESM
SN-CON-LIM
sn-psg
n-notes
SN-ETO
SN-EUT
SN-ALI
F-DWG-BDR
SN-ESU
x34bdr



CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) CONCRETE WALK – SPECIAL 1
- (C) RESTORE GRAVEL DRIVEWAY
- (D) TRUNCATED DOME PEDESTRIAN CURB RAMP, DETAIL SHEET 51
- (E) CONSTRUCT CONCRETE APPROACH NOSE, STD. PLATE 7113
- (F) COMMERCIAL DRIVE ENTRANCE
- (G) BITUMINOUS SURFACING

- (1) B612 CURB & GUTTER
- (2) B612 CURB & GUTTER – MODIFIED
- (3) B618 CURB & GUTTER
- (4) B618 CURB & GUTTER – MODIFIED
- (5) B624 CURB & GUTTER
- (6) B624 CURB & GUTTER – MODIFIED
- (7) D424 CURB & GUTTER
- (8) B424 CURB & GUTTER
- (9) 10' C&G TRANSITION B624 TO B618

ALL DIMENSIONS ARE TO FACE OF CURB, FACE OF BARRIER, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

0 25 50 100
SCALE IN FEET

NOTE:
REFER TO INTERSECTION DETAIL PLAN SHEET 5 OF 6 FOR INTERSECTION SPOT ELEVATIONS AND STATIONING AND OFFSETS

STATIONING ON NORTHBOUND HANSON BOULEVARD IS BASED ON NORTHBOUND ALIGNMENT.

STATIONING ON SOUTHBOUND HANSON BOULEVARD IS BASED ON SOUTHBOUND ALIGNMENT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: PP-HNSN02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

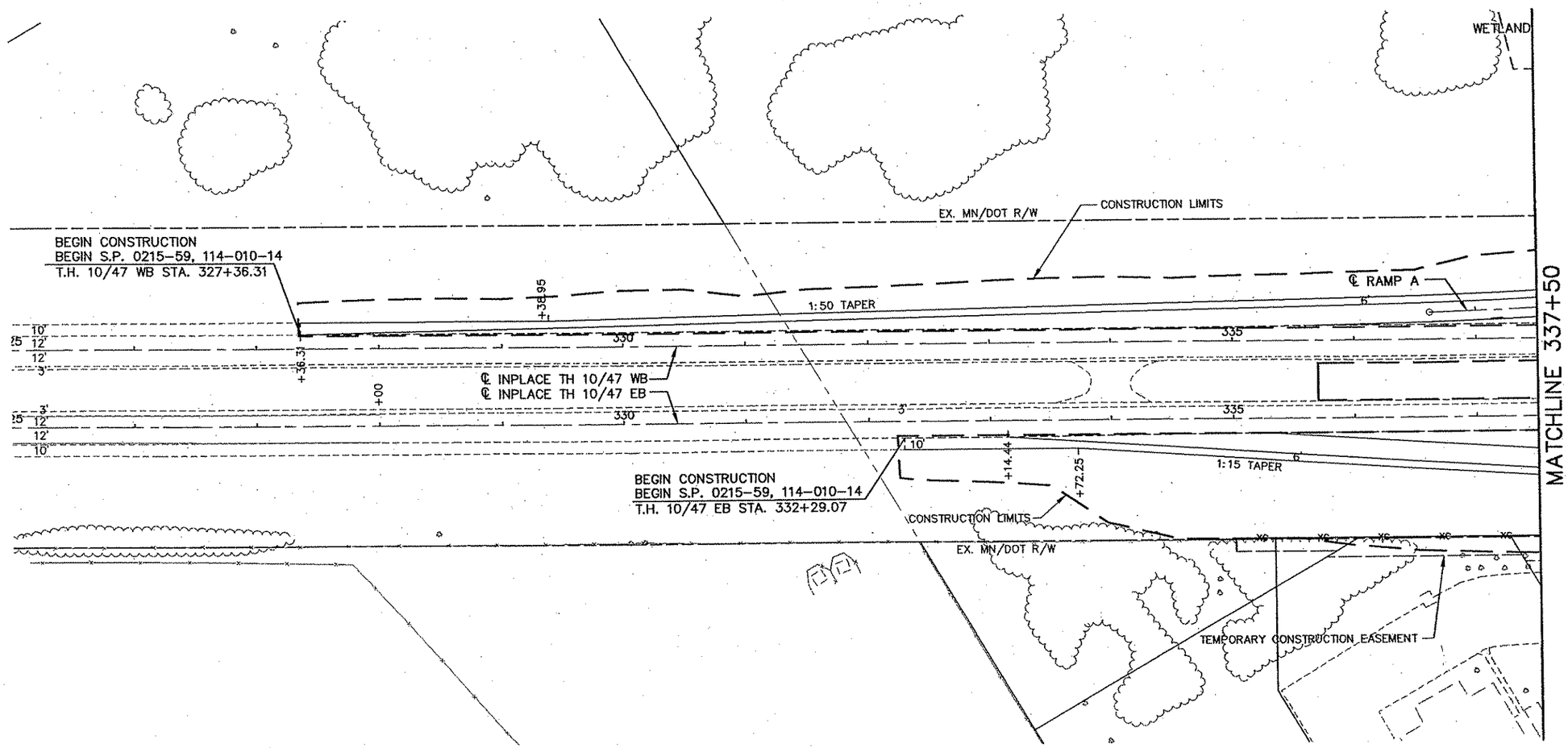
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PLAN
HANSON BOULEVARD
STATION 23+00.00 TO STATION 34+34.41

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 148 / 681

PLOT DATE: Jan 2007 10:11am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-P02.dwg



CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) CONCRETE WALK – SPECIAL 1
- (C) RESTORE GRAVEL DRIVEWAY
- (D) TRUNCATED DOME PEDESTRIAN CURB RAMP, DETAIL SHEET 51
- (E) CONSTRUCT CONCRETE APPROACH NOSE, STD. PLATE 7113
- (F) COMMERCIAL DRIVE ENTRANCE
- (G) BITUMINOUS SURFACING

- (1) B612 CURB & GUTTER
- (2) B612 CURB & GUTTER – MODIFIED
- (3) B618 CURB & GUTTER
- (4) B618 CURB & GUTTER – MODIFIED
- (5) B624 CURB & GUTTER
- (6) B624 CURB & GUTTER – MODIFIED
- (7) D424 CURB & GUTTER
- (8) B424 CURB & GUTTER
- (9) 10' C&G TRANSITION B624 TO B618

ALL DIMENSIONS ARE TO FACE OF CURB, FACE OF BARRIER, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

0 25 50 100
SCALE IN FEET

3 OF 9

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ
DESIGN BY: SAW
CHKED. BY: SAW
DWG. NAME: PP-HWY01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

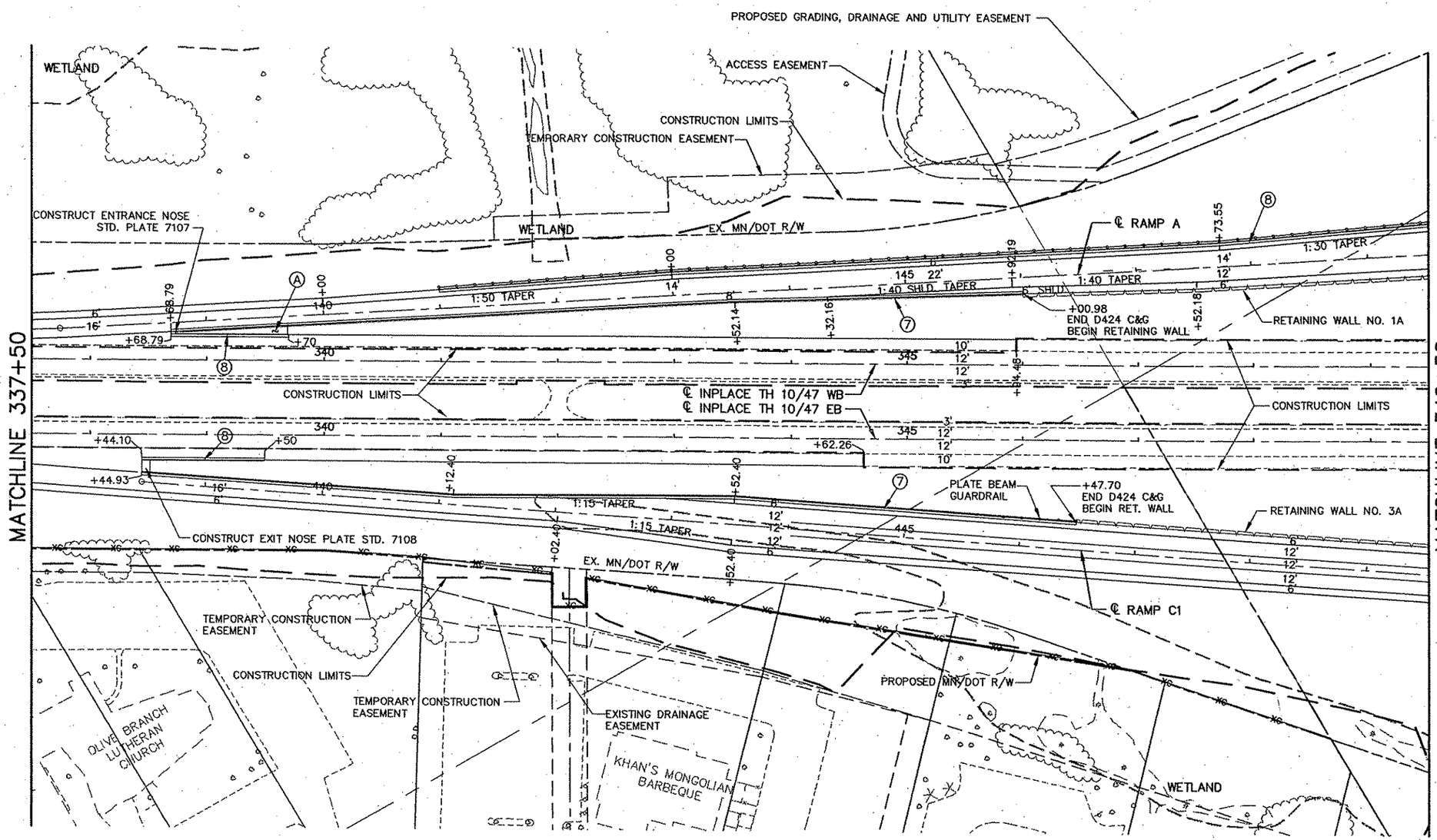
CONSTRUCTION PLAN

HIGHWAY 10/47 AND RAMPS A–D
STATION 327+36.31 TO STATION 337+50.00

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 149 / 681

PLOT DATE: Jc / 2007 10:10am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-F ut.dwg



CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) CONCRETE WALK – SPECIAL 1
- (C) RESTORE GRAVEL DRIVEWAY
- (D) TRUNCATED DOME PEDESTRIAN CURB RAMP, DETAIL SHEET 51
- (E) CONSTRUCT CONCRETE APPROACH NOSE, STD. PLATE 7113
- (F) COMMERCIAL DRIVE ENTRANCE
- (G) BITUMINOUS SURFACING

- (1) B612 CURB & GUTTER
- (2) B612 CURB & GUTTER – MODIFIED
- (3) B618 CURB & GUTTER
- (4) B618 CURB & GUTTER – MODIFIED
- (5) B624 CURB & GUTTER
- (6) B624 CURB & GUTTER – MODIFIED
- (7) D424 CURB & GUTTER
- (8) B424 CURB & GUTTER
- (9) 10' C&G TRANSITION B624 TO B618

ALL DIMENSIONS ARE TO FACE OF CURB, FACE OF BARRIER, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ
DESIGN BY: SAW
CHKED. BY: SAW
DWG. NAME: PP-HWY02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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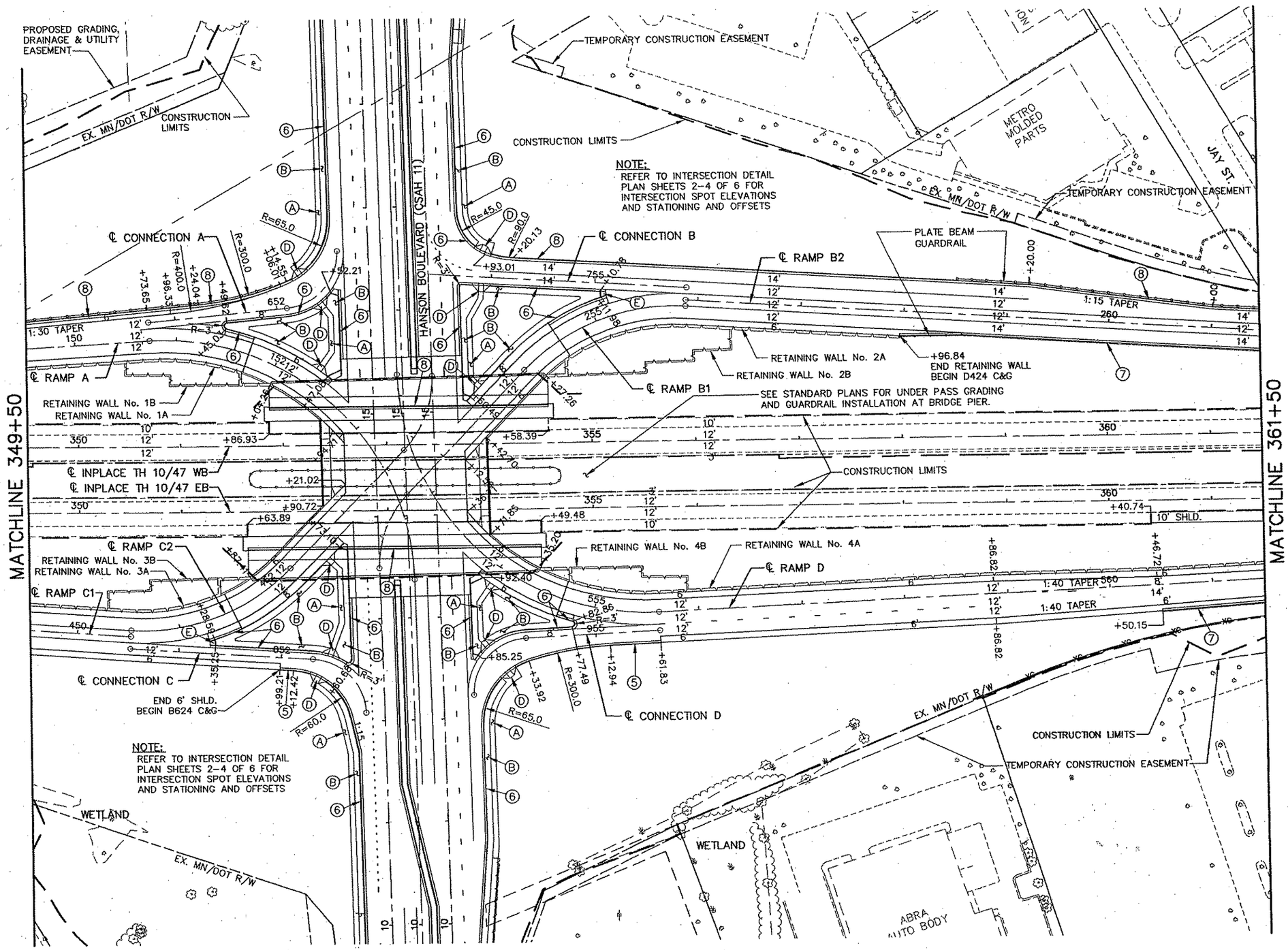
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PLAN
HIGHWAY 10/47 AND RAMPS A–D
STATION 337+50.00 TO STATION 349+50.00

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

4 OF
SHEET NO. 150
681

PLOT DATE: Ja... 2007 10:10am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-P...2.DWG



CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) CONCRETE WALK – SPECIAL 1
- (C) RESTORE GRAVEL DRIVEWAY
- (D) TRUNCATED DOME PEDESTRIAN CURB RAMP, DETAIL SHEET 51
- (E) CONSTRUCT CONCRETE APPROACH NOSE, STD. PLATE 7113
- (F) COMMERCIAL DRIVE ENTRANCE
- (G) BITUMINOUS SURFACING

- (1) B612 CURB & GUTTER
- (2) B612 CURB & GUTTER – MODIFIED
- (3) B618 CURB & GUTTER
- (4) B618 CURB & GUTTER – MODIFIED
- (5) B624 CURB & GUTTER
- (6) B624 CURB & GUTTER – MODIFIED
- (7) D424 CURB & GUTTER
- (8) B424 CURB & GUTTER
- (9) 10' C&G TRANSITION B624 TO B618

ALL DIMENSIONS ARE TO FACE OF CURB, FACE OF BARRIER, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

5 OF 9

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: PP-HWY03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

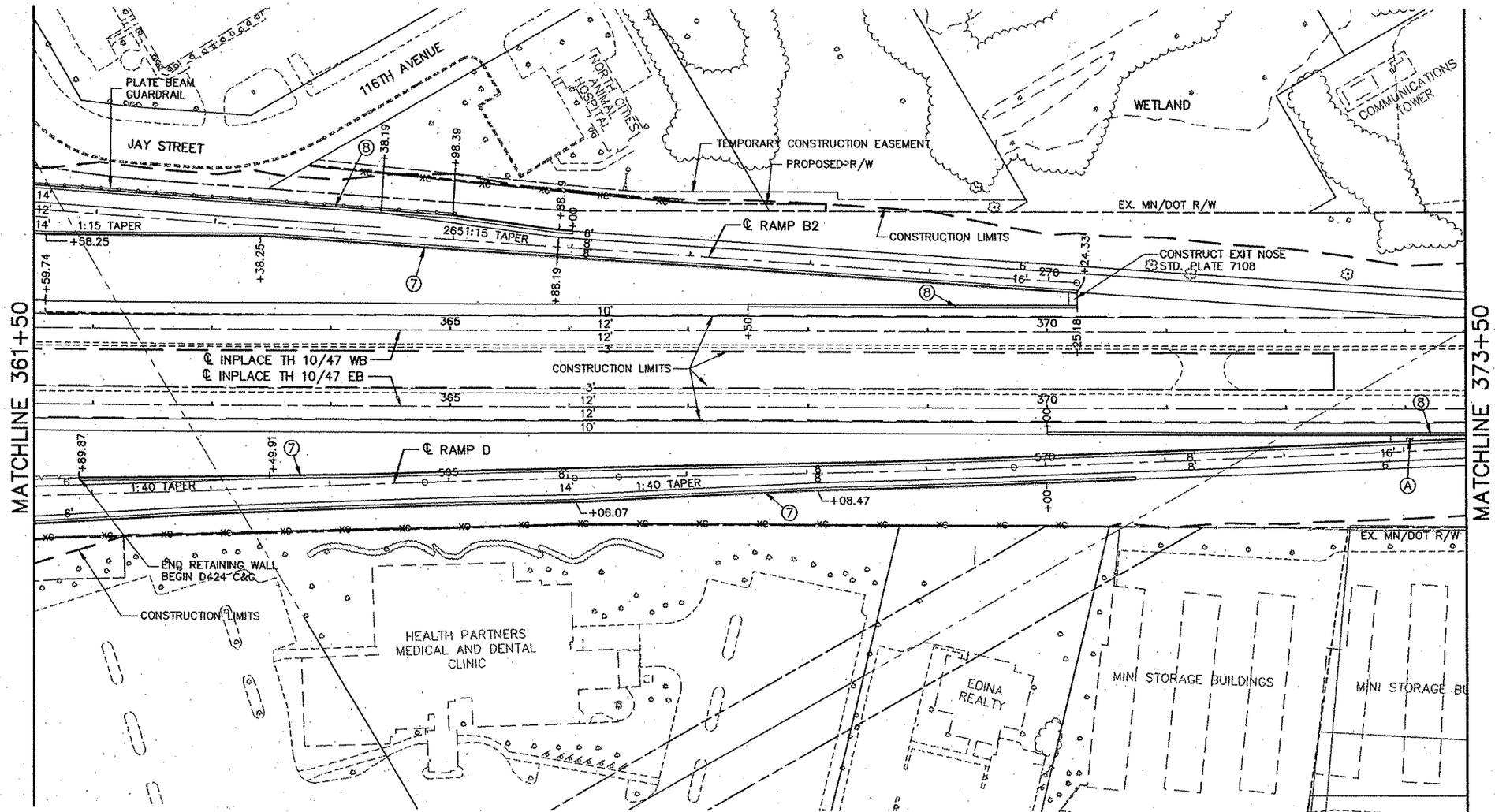
CONSTRUCTION PLAN

HIGHWAY 10/47 AND RAMPS A–D
STATION 349+50.00 TO STATION 361+50.00

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 151 / 681

PLOT DATE: Jo. 2007 10:11am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-P 33.dwg



CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) CONCRETE WALK – SPECIAL 1
- (C) RESTORE GRAVEL DRIVEWAY
- (D) TRUNCATED DOME PEDESTRIAN CURB RAMP, DETAIL SHEET 51
- (E) CONSTRUCT CONCRETE APPROACH NOSE, STD. PLATE 7113
- (F) COMMERCIAL DRIVE ENTRANCE
- (G) BITUMINOUS SURFACING

- (1) B612 CURB & GUTTER
- (2) B612 CURB & GUTTER – MODIFIED
- (3) B618 CURB & GUTTER
- (4) B618 CURB & GUTTER – MODIFIED
- (5) B624 CURB & GUTTER
- (6) B624 CURB & GUTTER – MODIFIED
- (7) D424 CURB & GUTTER
- (8) B424 CURB & GUTTER
- (9) 10' C&G TRANSITION B624 TO B618

ALL DIMENSIONS ARE TO FACE OF CURB, FACE OF BARRIER, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ
DESIGN BY: SAW
CHKED. BY: SAW
DWG. NAME: PP-HWY04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

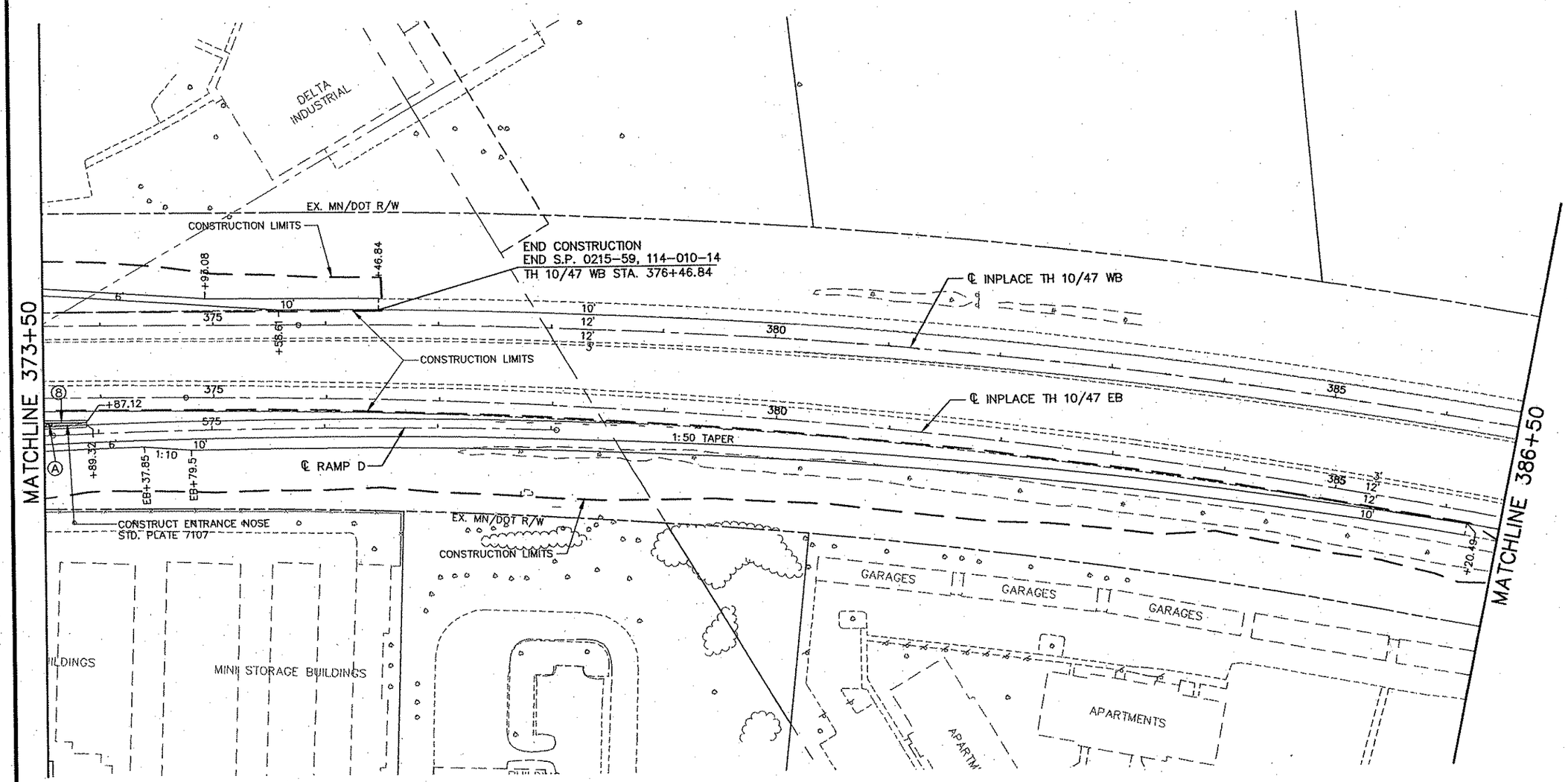
CONSTRUCTION PLAN

HIGHWAY 10/47 AND RAMPS A–D
STATION 361+50.00 TO STATION 373+50.00

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 152

PLOT DATE: Jan .007 10:11am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-PP



CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) CONCRETE WALK – SPECIAL 1
- (C) RESTORE GRAVEL DRIVEWAY
- (D) TRUNCATED DOME PEDESTRIAN CURB RAMP, DETAIL SHEET 51
- (E) CONSTRUCT CONCRETE APPROACH NOSE, STD. PLATE 7113
- (F) COMMERCIAL DRIVE ENTRANCE
- (G) BITUMINOUS SURFACING

- (1) B612 CURB & GUTTER
- (2) B612 CURB & GUTTER – MODIFIED
- (3) B618 CURB & GUTTER
- (4) B618 CURB & GUTTER – MODIFIED
- (5) B624 CURB & GUTTER
- (6) B624 CURB & GUTTER – MODIFIED
- (7) D424 CURB & GUTTER
- (8) B424 CURB & GUTTER
- (9) 10' C&G TRANSITION B624 TO B618

ALL DIMENSIONS ARE TO FACE OF CURB, FACE OF BARRIER, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

0 25 50 100
SCALE IN FEET

7 OF 9

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ
DESIGN BY: SAW
CHKED. BY: SAW
DWG. NAME: PP-HWY05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

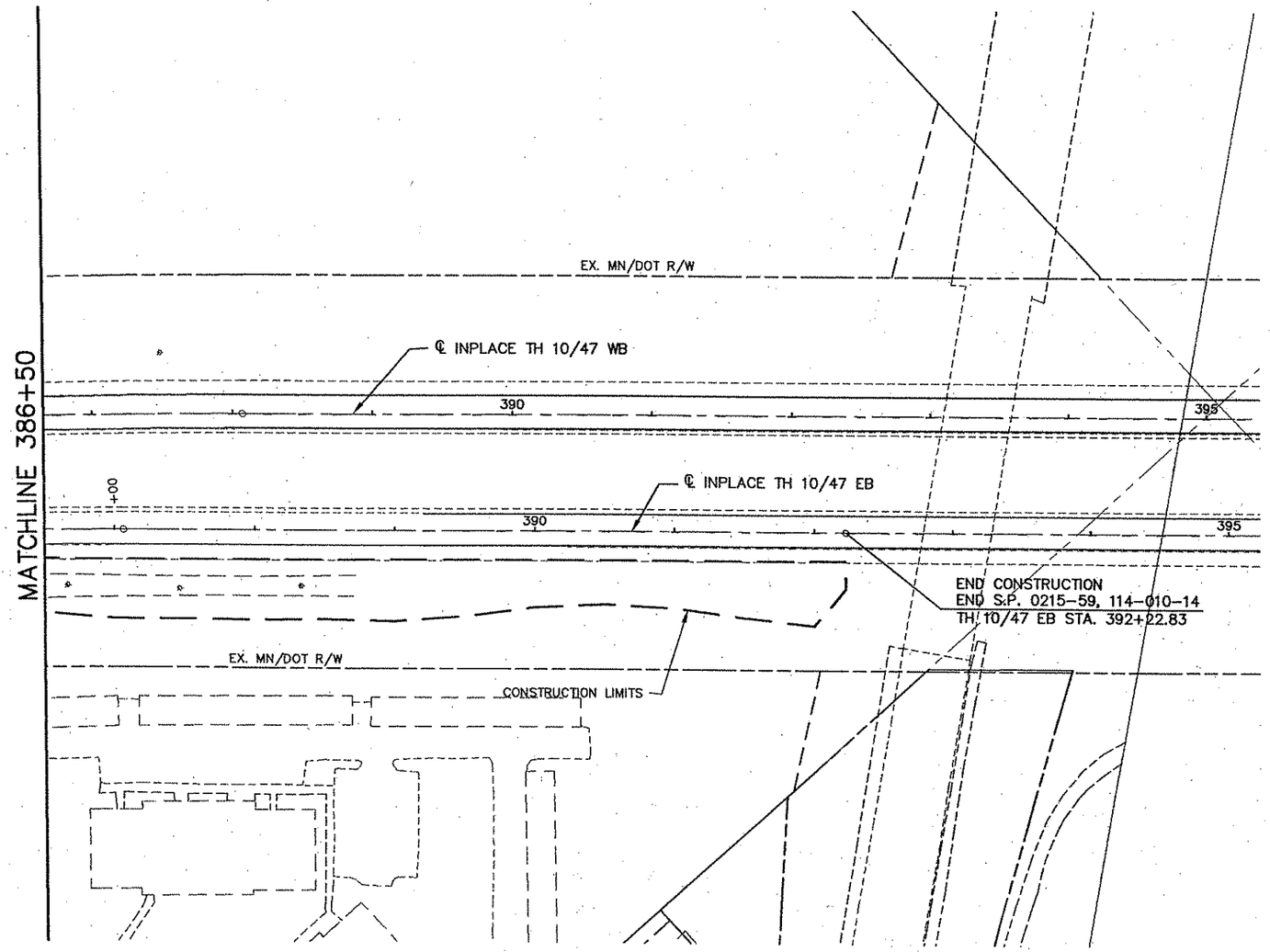
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PLAN
HIGHWAY 10/47 AND RAMPS A-D
STATION 373+50.00 TO STATION 386+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 153 / 681

PLOT DATE: Ja. 2007 10:11am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRO-CONST\042-P 05.dwg



CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) CONCRETE WALK – SPECIAL 1
- (C) RESTORE GRAVEL DRIVEWAY
- (D) TRUNCATED DOME PEDESTRIAN CURB RAMP, DETAIL SHEET 51
- (E) CONSTRUCT CONCRETE APPROACH NOSE, STD. PLATE 7113
- (F) COMMERCIAL DRIVE ENTRANCE
- (G) BITUMINOUS SURFACING

- (1) B612 CURB & GUTTER
- (2) B612 CURB & GUTTER – MODIFIED
- (3) B618 CURB & GUTTER
- (4) B618 CURB & GUTTER – MODIFIED
- (5) B624 CURB & GUTTER
- (6) B624 CURB & GUTTER – MODIFIED
- (7) D424 CURB & GUTTER
- (8) B424 CURB & GUTTER
- (9) 10' C&G TRANSITION B624 TO B618

ALL DIMENSIONS ARE TO FACE OF CURB, FACE OF BARRIER, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ
DESIGN BY: SAW
CHKED. BY: SAW
DWG. NAME: PP-HWY06
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.0378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

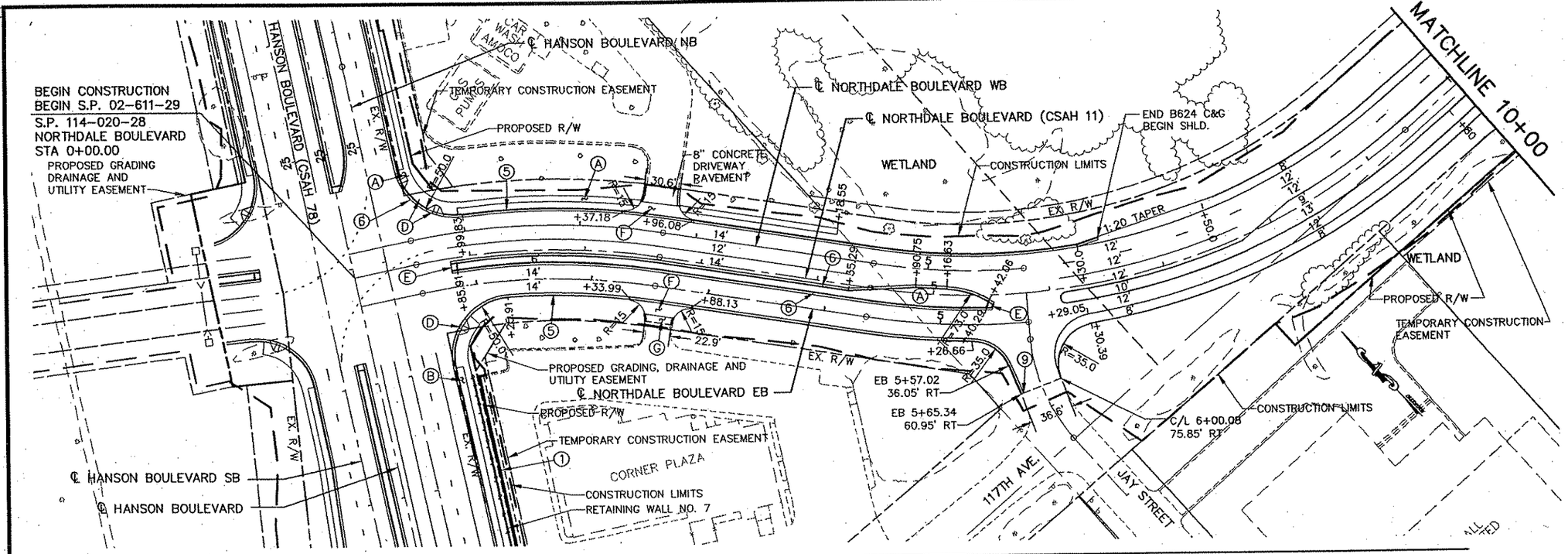
TH 10/HANSON BOULEVARD INTERCHANGE

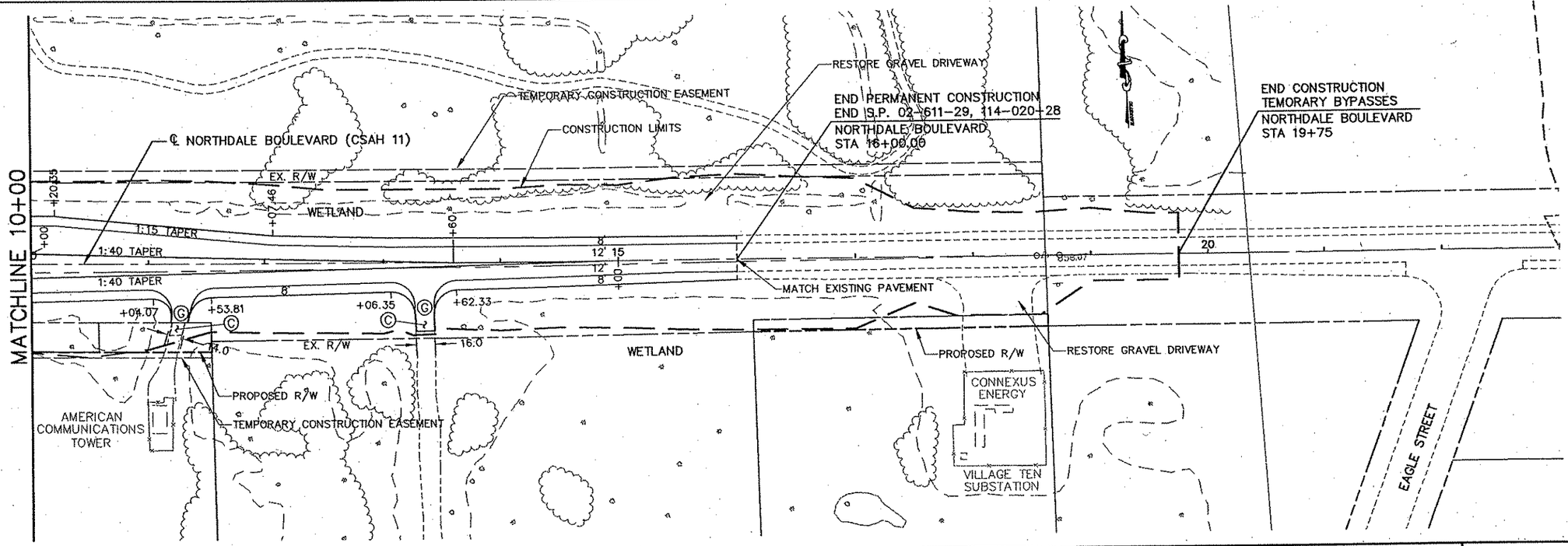
CONSTRUCTION PLAN

HIGHWAY 10/47 AND RAMPS A-D
STATION 386+50.00 TO STATION 392+22.83

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

PLOT DATE: Jan .007 10:11am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-P 16.dwg





CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) CONCRETE WALK – SPECIAL 1
- (C) RESTORE GRAVEL DRIVEWAY
- (D) TRUNCATED DOME PEDESTRIAN CURB RAMP, DETAIL SHEET 51
- (E) CONSTRUCT CONCRETE APPROACH NOSE, STD. PLATE 7113
- (F) COMMERCIAL DRIVE ENTRANCE
- (G) BITUMINOUS SURFACING

- (1) B612 CURB & GUTTER
- (2) B612 CURB & GUTTER – MODIFIED
- (3) B618 CURB & GUTTER
- (4) B618 CURB & GUTTER – MODIFIED
- (5) B624 CURB & GUTTER
- (6) B624 CURB & GUTTER – MODIFIED
- (7) D424 CURB & GUTTER
- (8) B424 CURB & GUTTER
- (9) 10' C&G TRANSITION B624 TO B618

ALL DIMENSIONS ARE TO FACE OF CURB, FACE OF BARRIER, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

STATIONING ON NORTHDALE BOULEVARD WESTBOUND WEST OF JAY STREET IS BASED ON WESTBOUND ALIGNMENT.

STATIONING ON NORTHDALE BOULEVARD EASTBOUND WEST OF JAY STREET IS BASED ON EASTBOUND ALIGNMENT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: PP-NNDALE01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

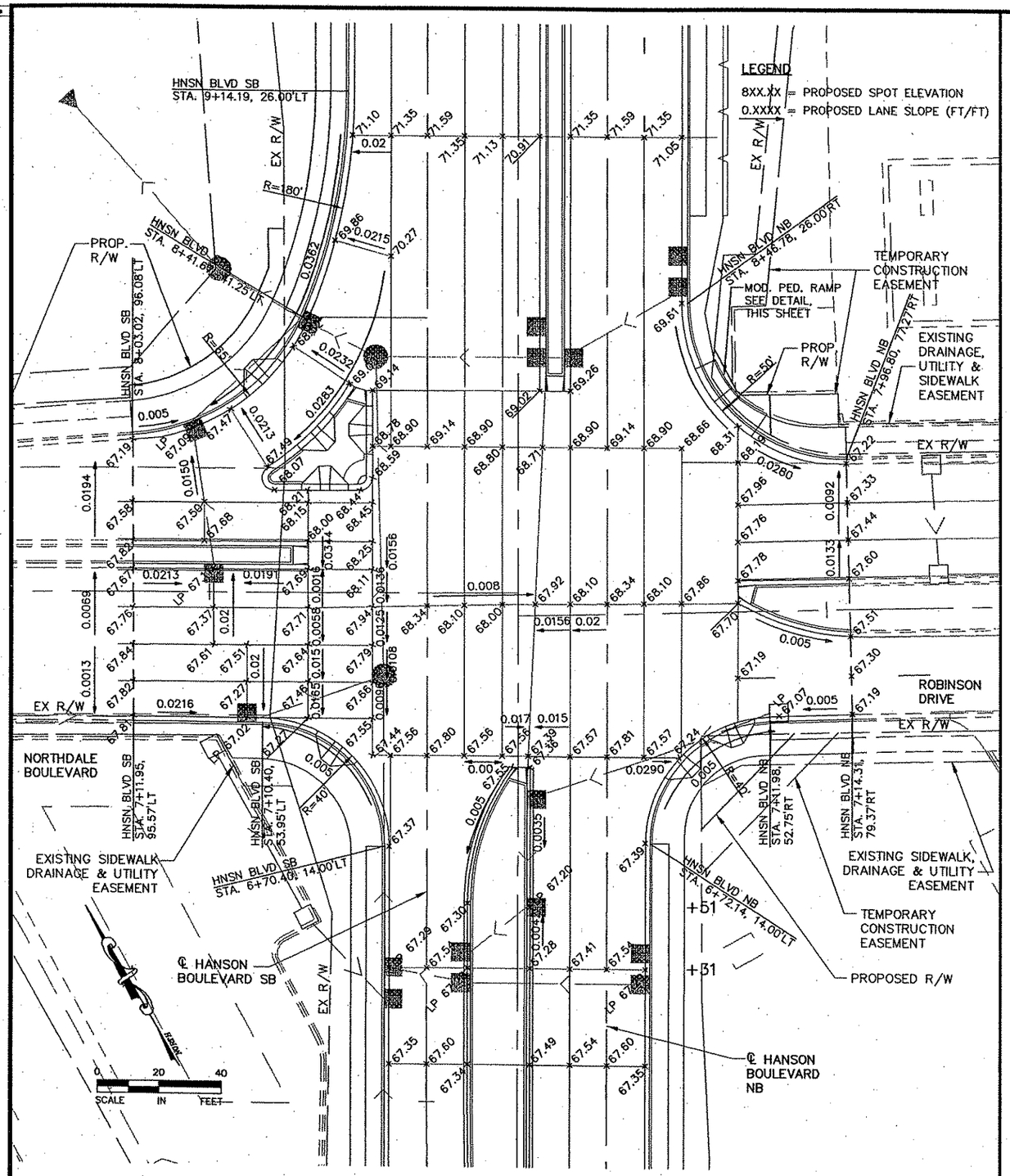
TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PLAN
NORTHDALE BOULEVARD (CSAH 11)
STATION 0+00.00 TO STATION 19+75.00

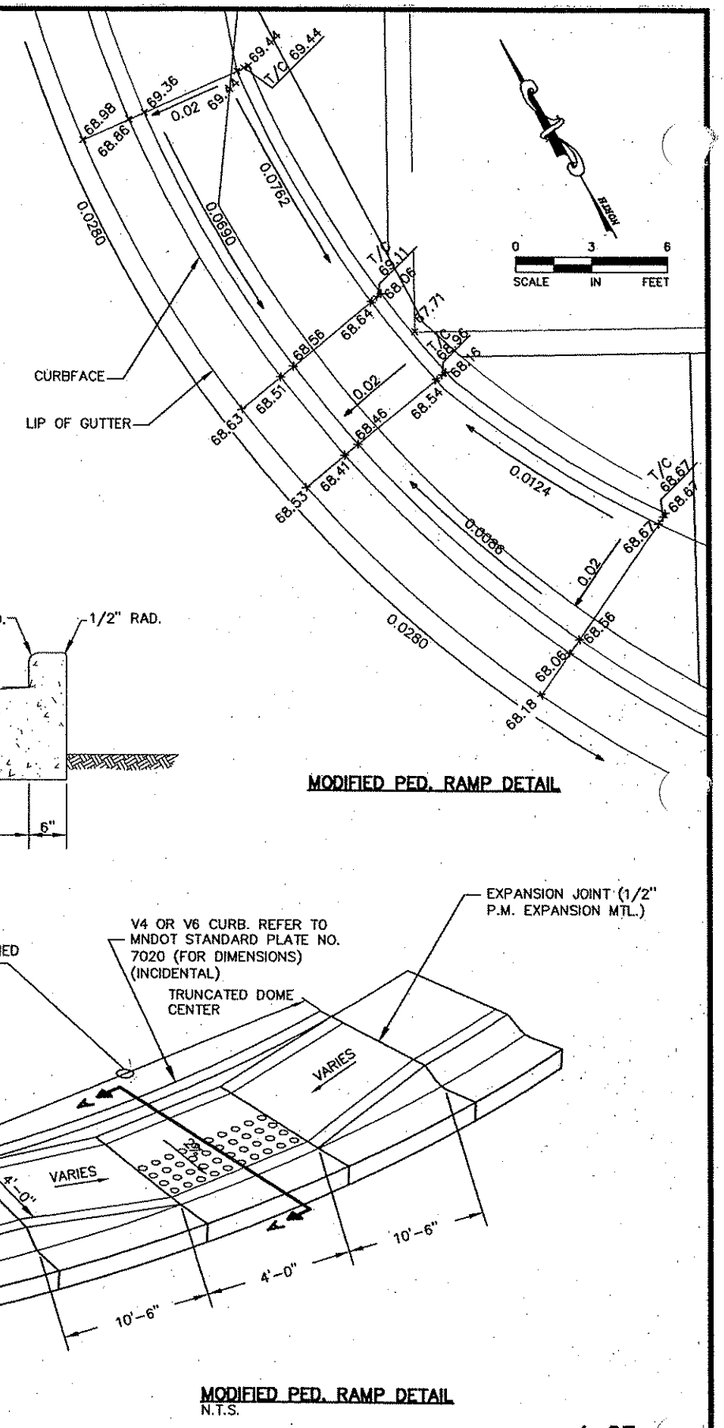
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 155 / 681

PLOT DATE: Jq 2007 10:11am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRO-CONST\042-PSHLE01.dwg

Xref'd Drawings
HSN-ESU
ID-ESM
12INT-SPT
HSN-EUT
HSN-PUT
sn-psg
HSN-ETO
HSN-PCO
HSN-ALI
F-DWG
1x34bd





REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ
DESIGN BY: JCD
CHKED. BY: SAW
DWG. NAME: CDET-01
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

INTERSECTION DETAIL PLAN

S. NORTHDALE BOULEVARD / ROBINSON DRIVE AND HANSON BOULEVARD INTERSECTION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 156 / 681

PLOT DATE: Jan 007 9:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-CE dwg

Xrefs & Drawings
ISN-ESU
2INT-SPT
ISN-EUT
ISN-PUT
sn-psg
ISN-ETO
ISN-PCO
ISP
DR

REFER TO SHEET 4 OF 6 FOR RAMP C

LEGEND
8XX.XX = PROPOSED SPOT ELEVATION
0.XXXX = PROPOSED LANE SLOPE (FT/FT)

℄ TH 10/47 EB

℄ RAMP D

℄ CONNECTION RAMP D

℄ HANSON BOULEVARD NB

EX MN/DOT R/W

TEMPORARY CONSTRUCTION EASEMENT

0 20 40
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: CDET-02
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

INTERSECTION DETAIL PLAN

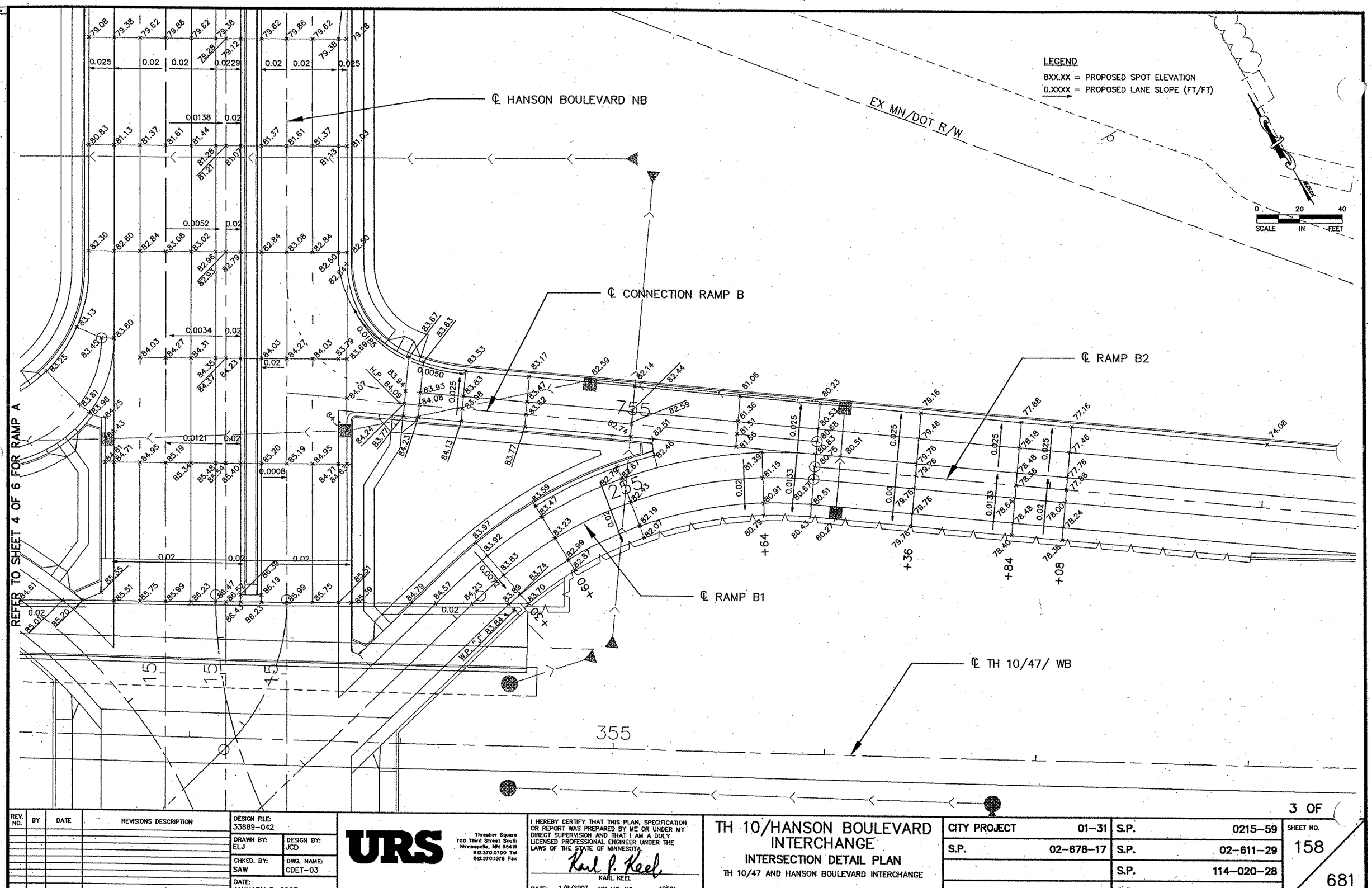
TH 10/47 AND HANSON BOULEVARD INTERCHANGE

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 157 / 681

PLOT DATE: Jul 2007 9:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-C.DWG

ISN-Radius Drawings
ID-ESM
ISN-EUT
2INT-SPT
ISN-PUT
sn-psg
ISN-ETO
ISN-PCO
ISN-ALI
F-DWG-BDR
x34bdr



PLOT DATE: Jan .007 9:39am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-CI

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042	
DRAWN BY: ELJ	DESIGN BY: JCD
CHKED. BY: SAW	DWG. NAME: CDET-03
DATE: JANUARY 8, 2007	

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
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612.370.1375 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

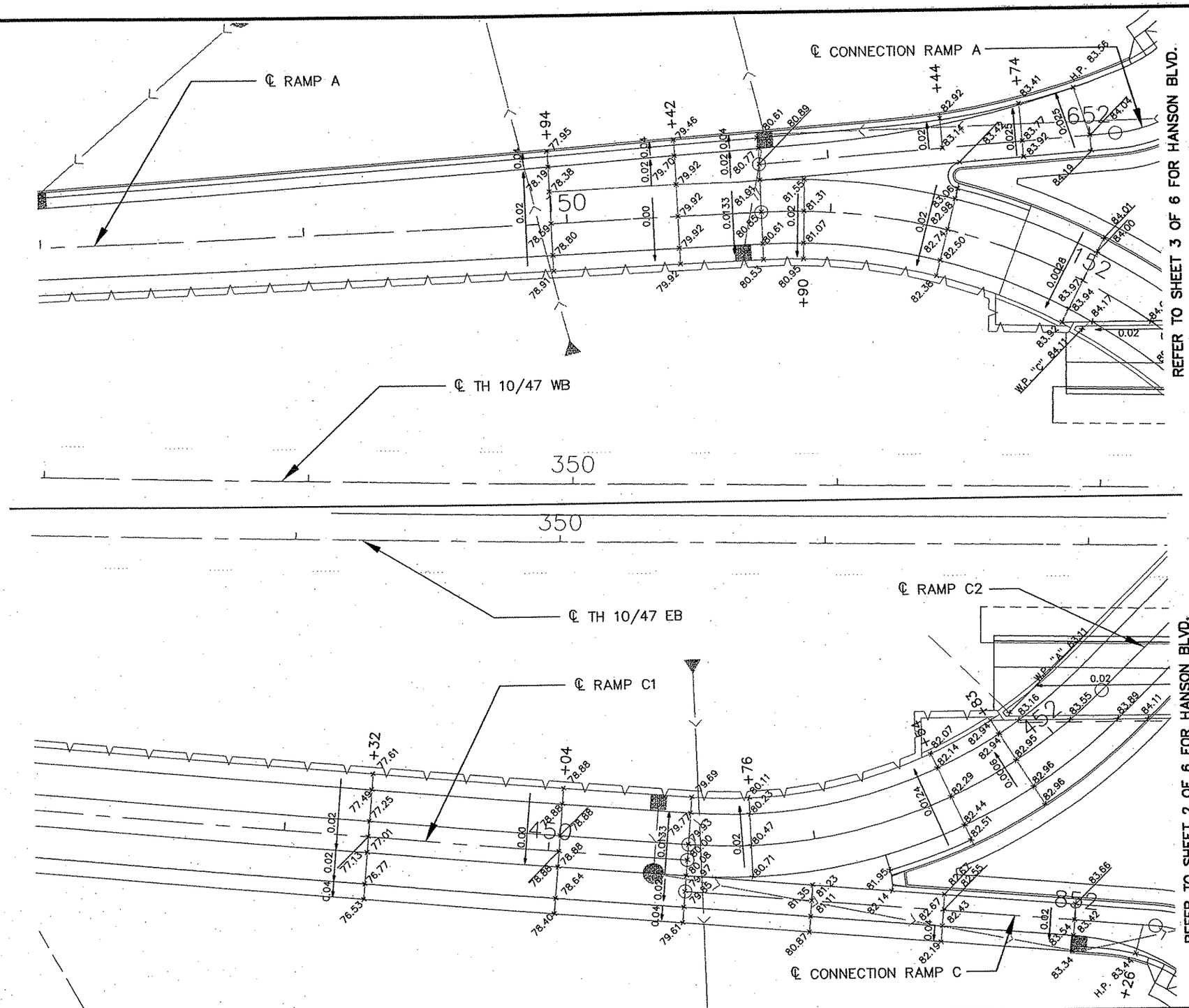
TH 10/HANSON BOULEVARD INTERCHANGE

INTERSECTION DETAIL PLAN

TH 10/47 AND HANSON BOULEVARD INTERCHANGE

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 158 / 681



LEGEND

8XX.XX = PROPOSED SPOT ELEVATION

0.XXXX → = PROPOSED LANE SLOPE (FT/FT)

NORTH

0 20 40

SCALE IN FEET

4 OF 6

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: ELJ	DESIGN BY: JCD
CHKED. BY: SAW	DWG. NAME: CDET-04
DATE:	JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

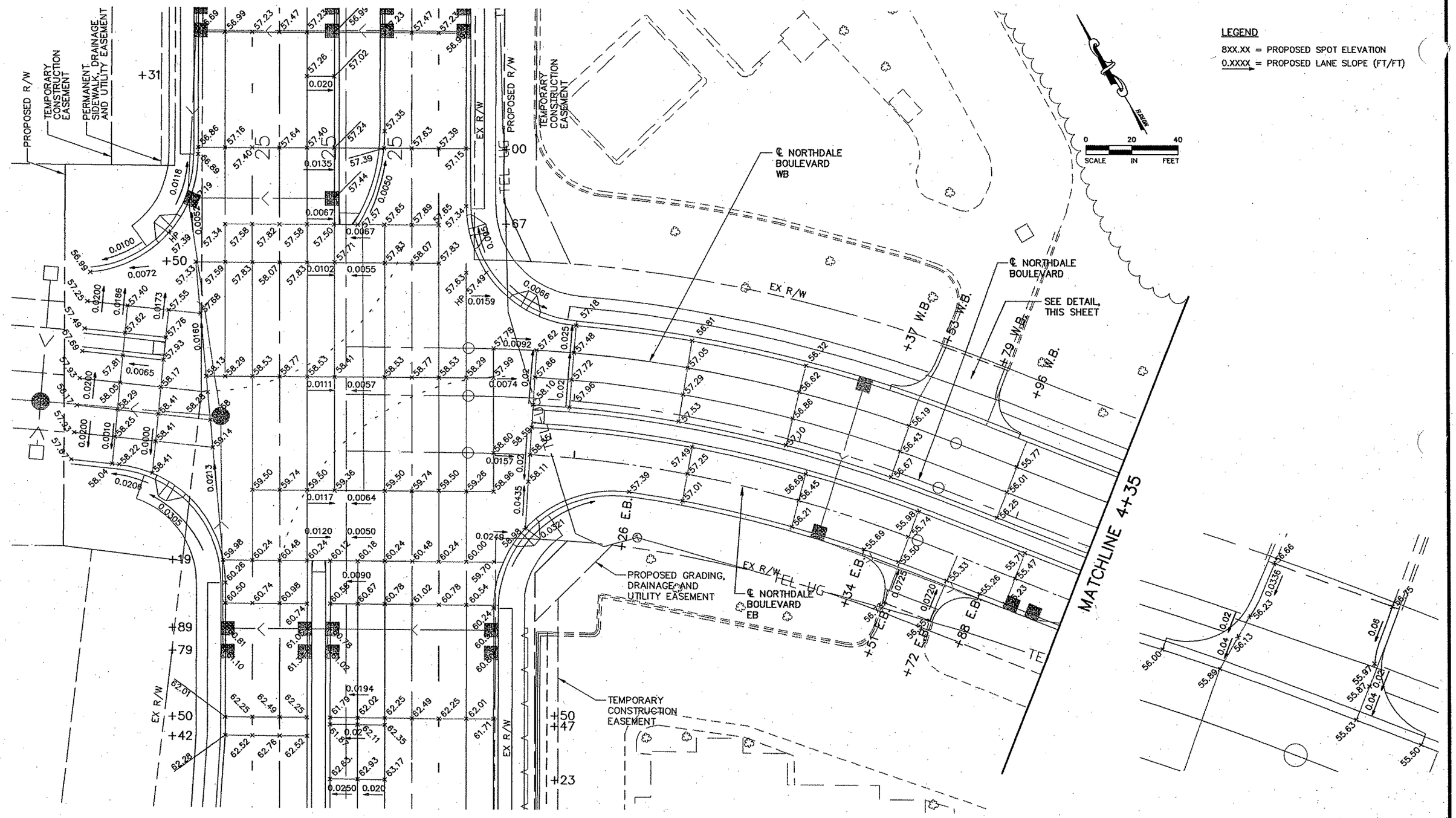
INTERSECTION DETAIL PLAN

TH 10/47 AND HANSON BOULEVARD INTERCHANGE

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 159 / 681

PLOT DATE: Jo. 2007 9:39am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-C...dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ
DESIGN BY: JCD
CHKED. BY: SAW
DWG. NAME: CDET-05
DATE: JANUARY 8, 2007

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700 Third Street South
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

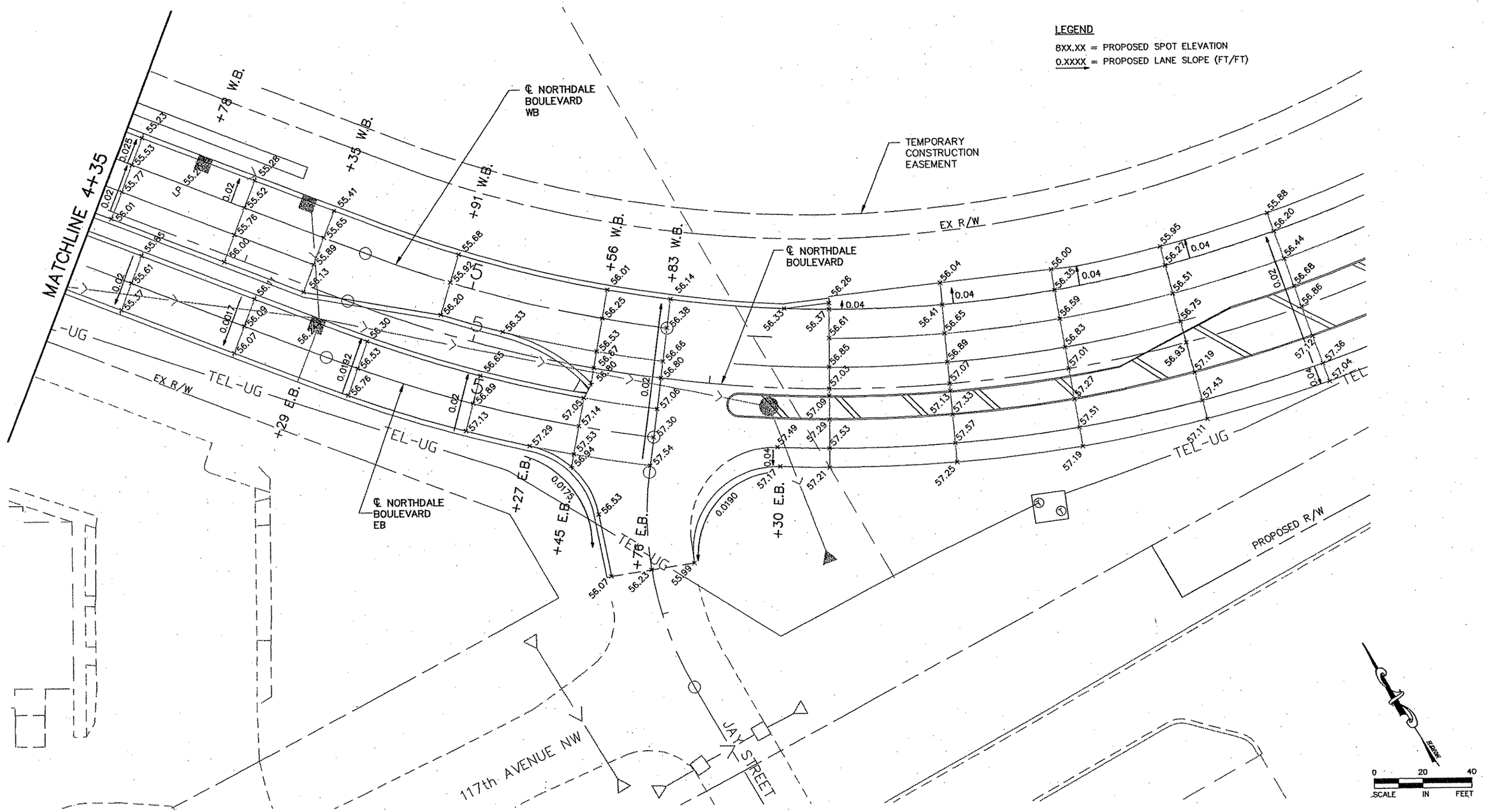
TH 10/HANSON BOULEVARD INTERCHANGE
INTERSECTION DETAIL PLAN
NORTHDALE BOULEVARD (CSAH 11) & HANSON BOULEVARD INTERSECTION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

5 OF

SHEET NO. 160 / 681

PLOT DATE: Jan 2007 9:39am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-C.dwg



6 OF 6

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ
DESIGN BY: JCD
CHKED. BY: SAW
DWG. NAME: CDET-06
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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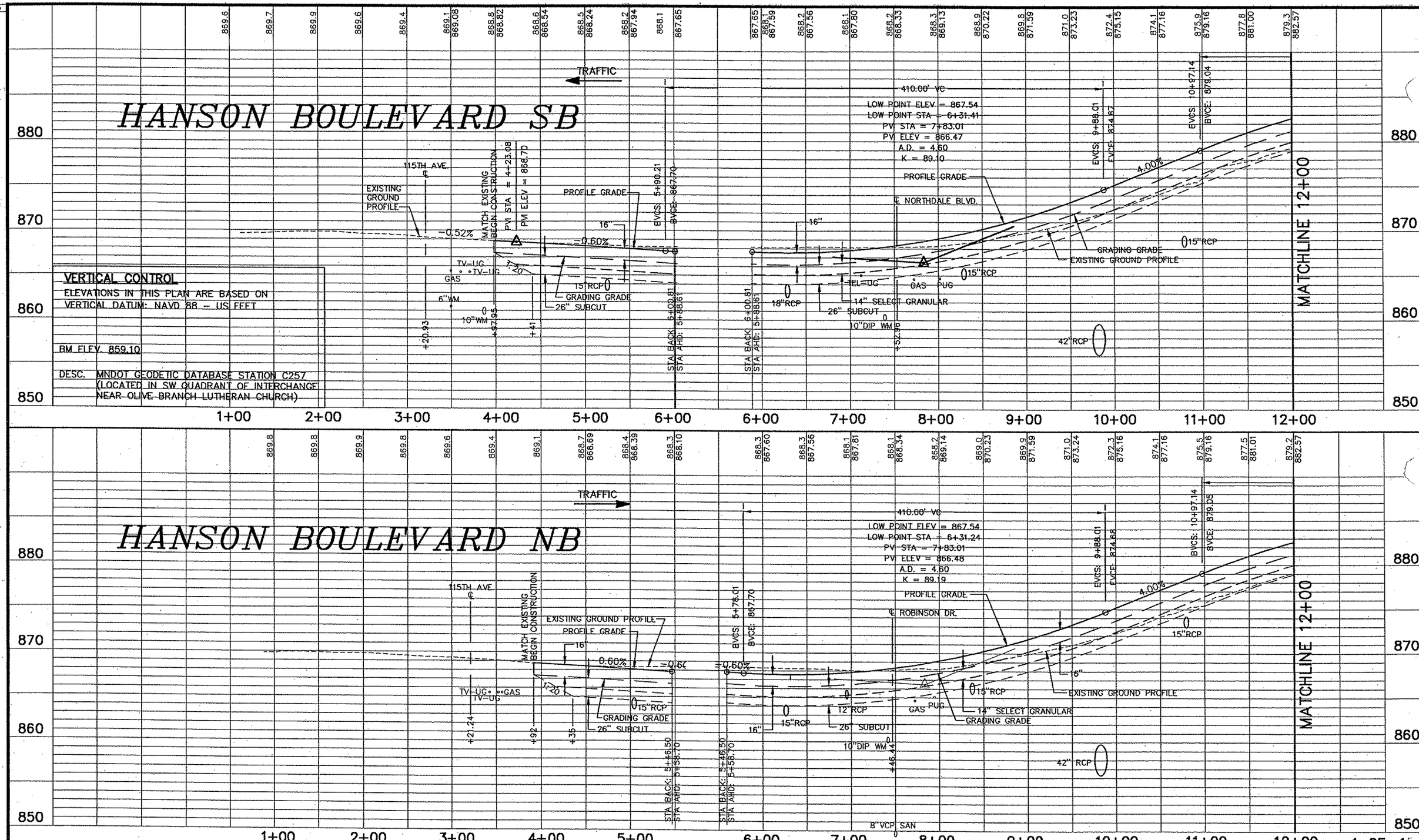
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
INTERSECTION DETAIL PLAN
NORTHDALE BOULEVARD (CSAH 11) & JAY STREET INTERSECTION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 161 / 681

PLOT DATE: Ja 2007 9:39am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-C.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: 042PRF01
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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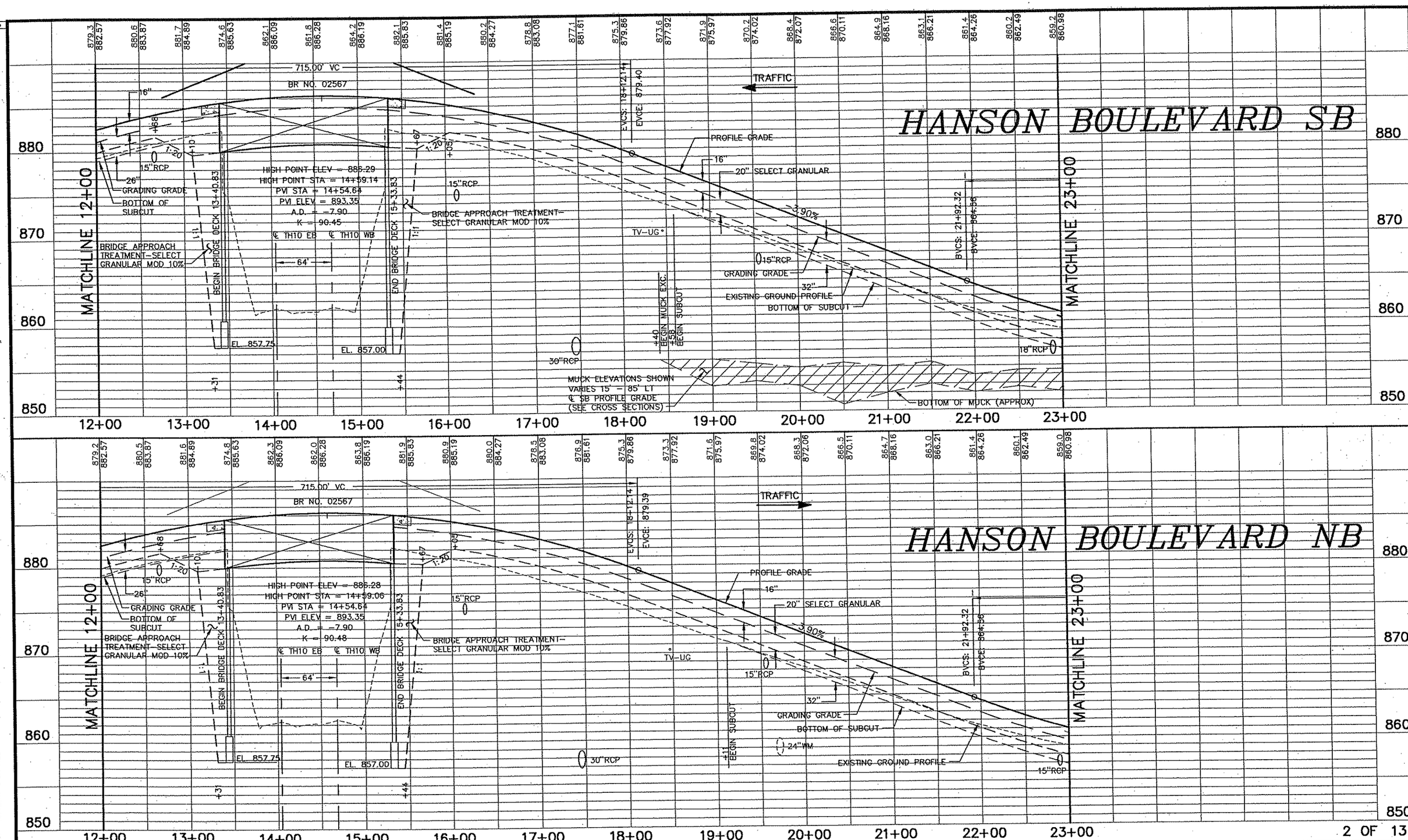
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PROFILE
HANSON BOULEVARD
STATION 3+16.41 TO STATION 12+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 162 / 681

PLOT DATE: Jan 2007 10:11am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-P



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: 042PRF02
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PROFILE
HANSON BOULEVARD
STATION 12+00.00 TO STATION 23+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 163 / 681

2 OF 13

PLOT DATE: Jan 2007 10:12am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-P

F-DWG-BDR
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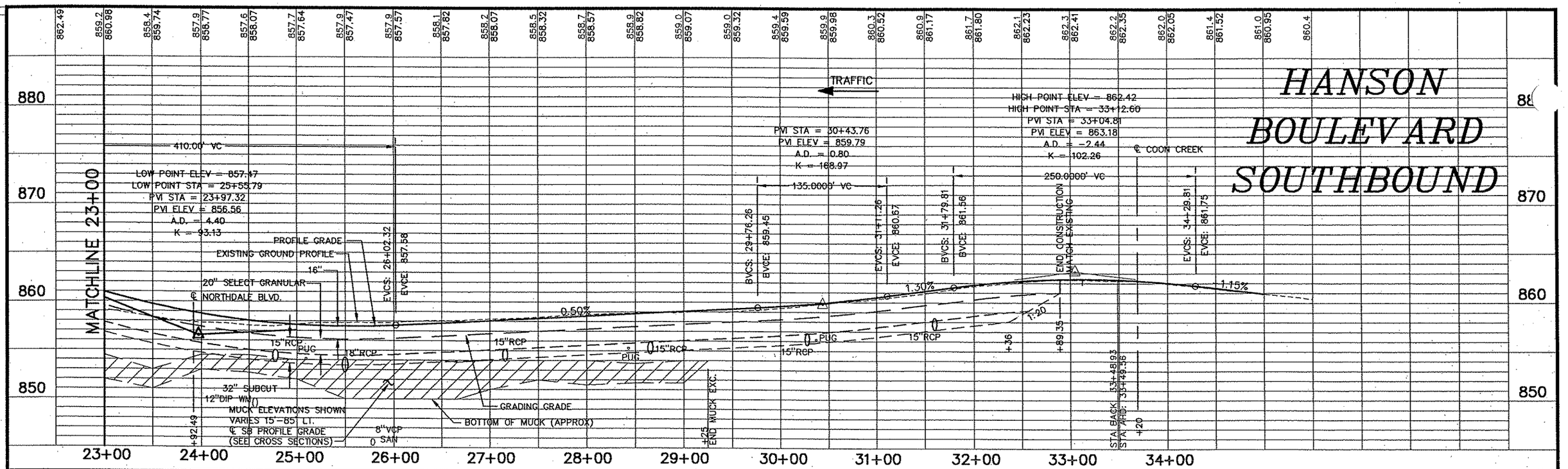
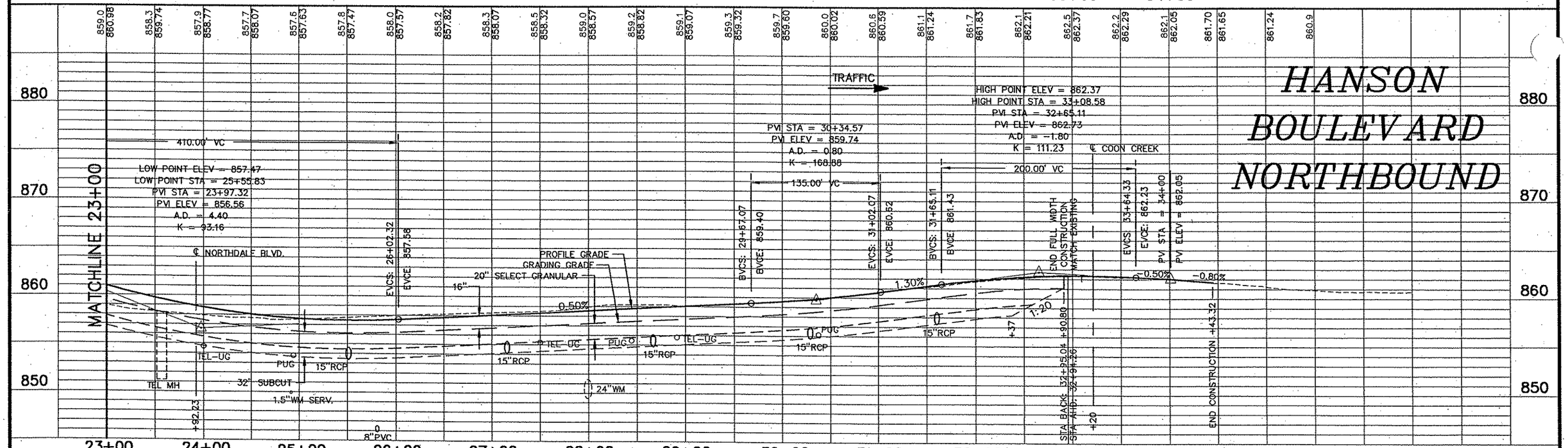
x34bdr





REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: IKR	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: 042PRF02A
DATE:	JANUARY 8, 2007

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Thresher Square
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Minneapolis, MN 55415
612.370.0700 Tel
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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION PROFILE

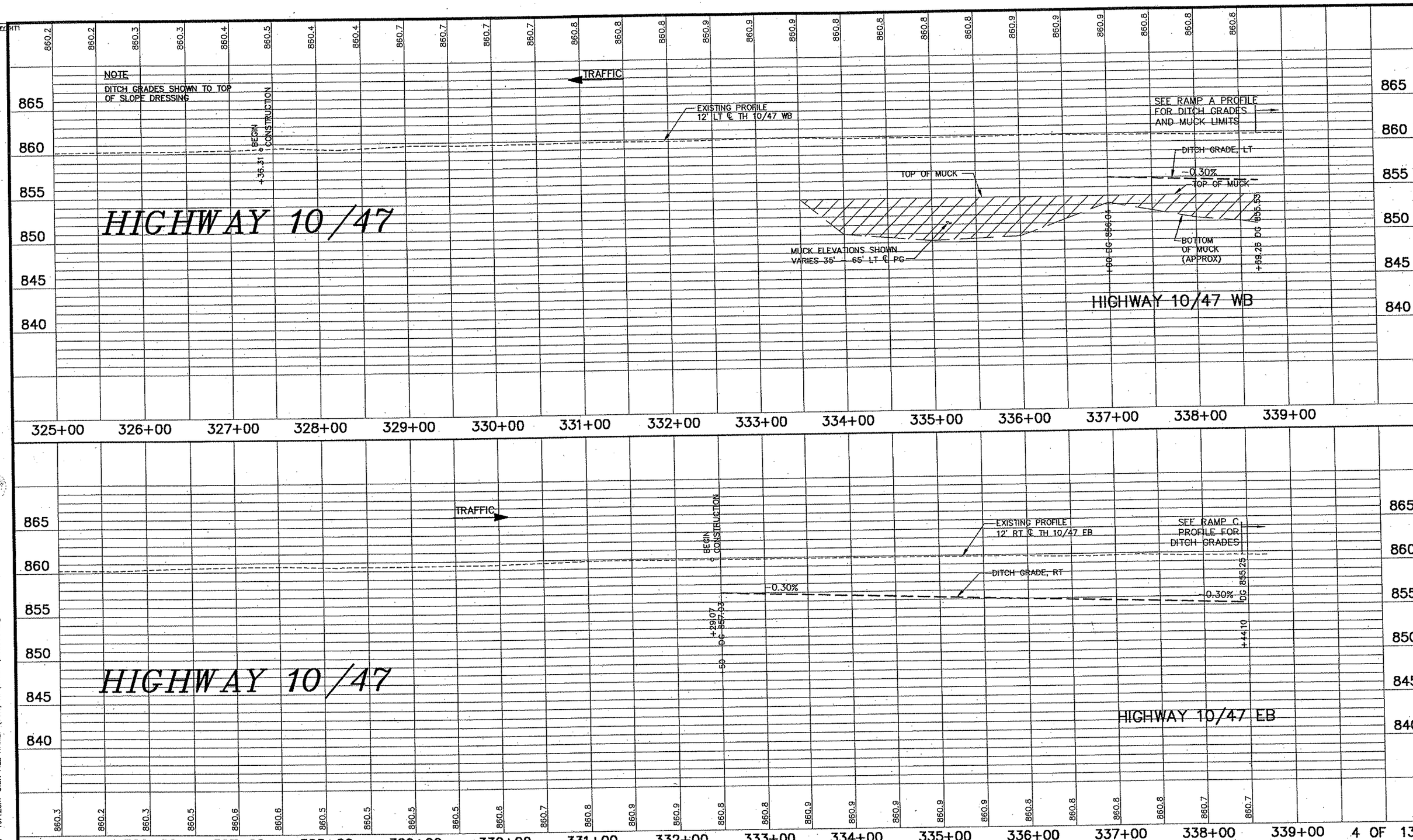
HANSON BOULEVARD
STATION 23+00.00 TO END CONSTRUCTION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 164

3 OF 681

PLOT DATE: Jan 2007 10:12am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-P...dwg



4 OF 13

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: 042PRF03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

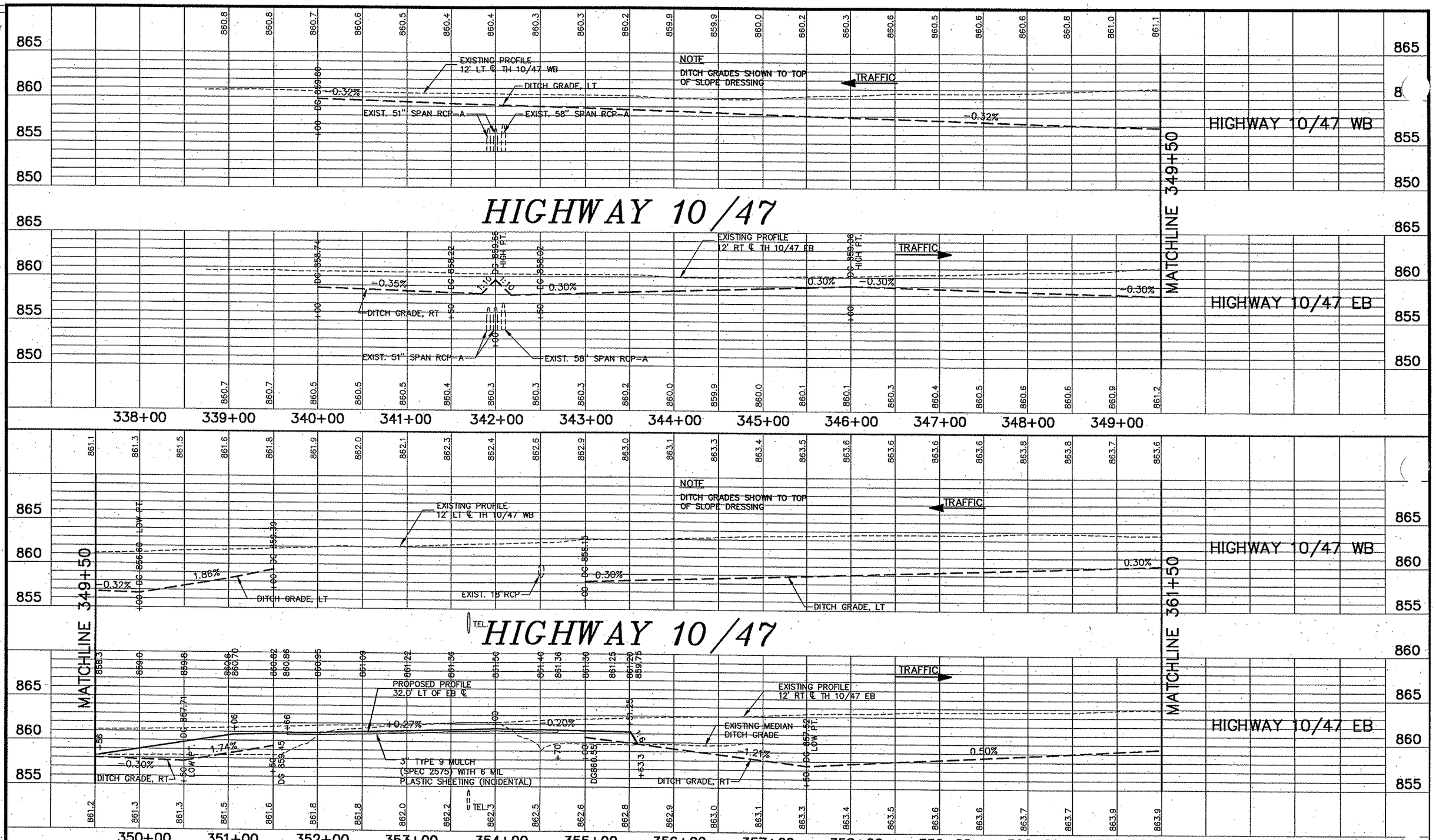
TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PROFILE
HIGHWAY 10/47
BEGIN CONSTRUCTION TO STATION 338+69.26

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 165 / 681

PLOT DATE: Jan 007 10:12am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-PR

Xref'd Drawings
RF-HWY10
rid-22x34-HWY
EF-DWG-BDR
2x34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED HWY 10/47 EB PROFILE, STA 341+184 TO STA 342+16

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: 042PRF04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

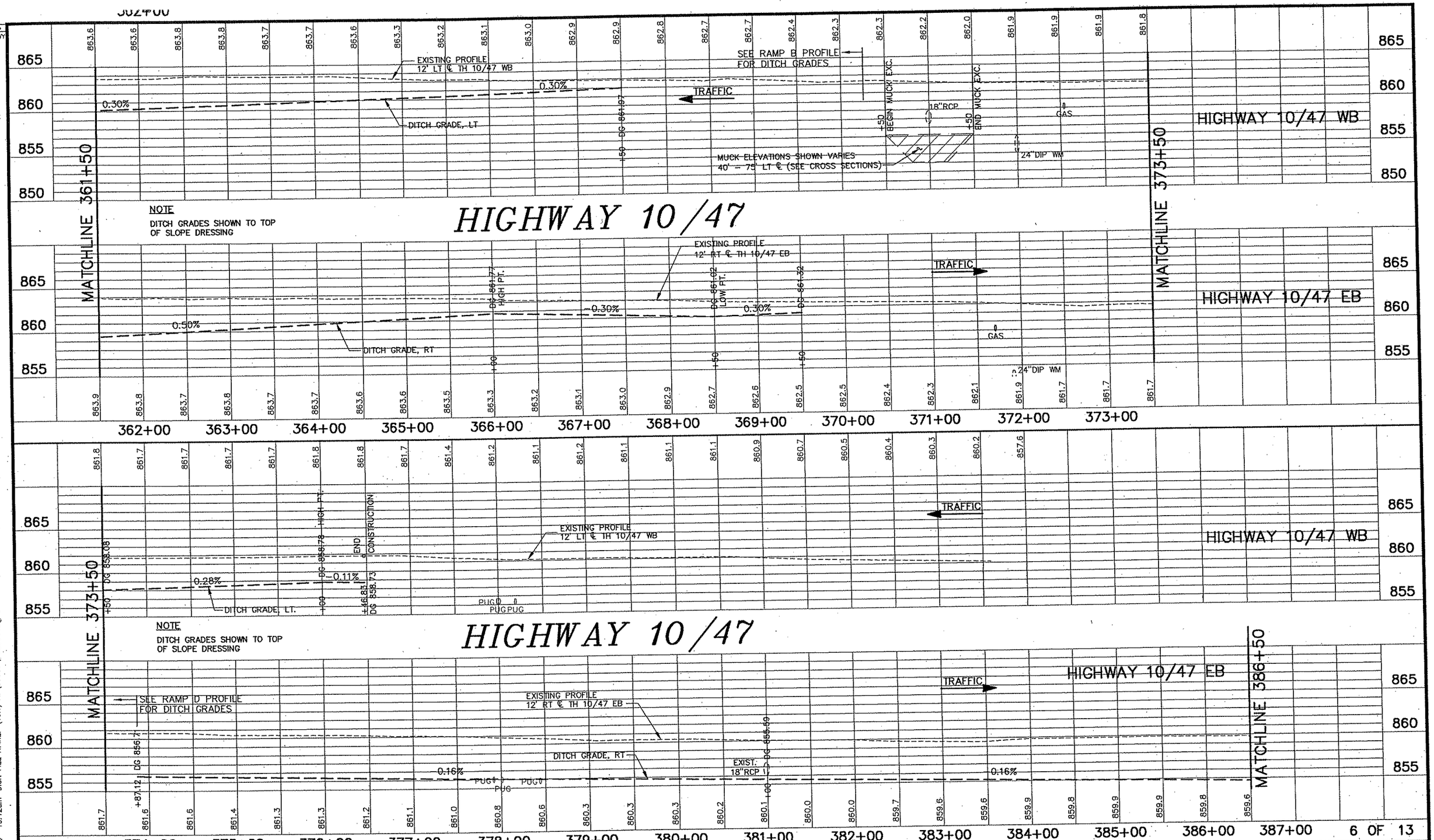
TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PROFILE
HIGHWAY 10/47
STATION 338+69.26 TO STATION 361+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 166 / 681

5 OF

PLOT DATE: Jan 07 5:29pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-PR



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY:	IKR
DESIGN BY:	PMJ
CHKED. BY:	SAW
DWG. NAME:	042PRF05
DATE:	JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl L. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION PROFILE

HIGHWAY 10/47
STATION 361+50.00 TO 386+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

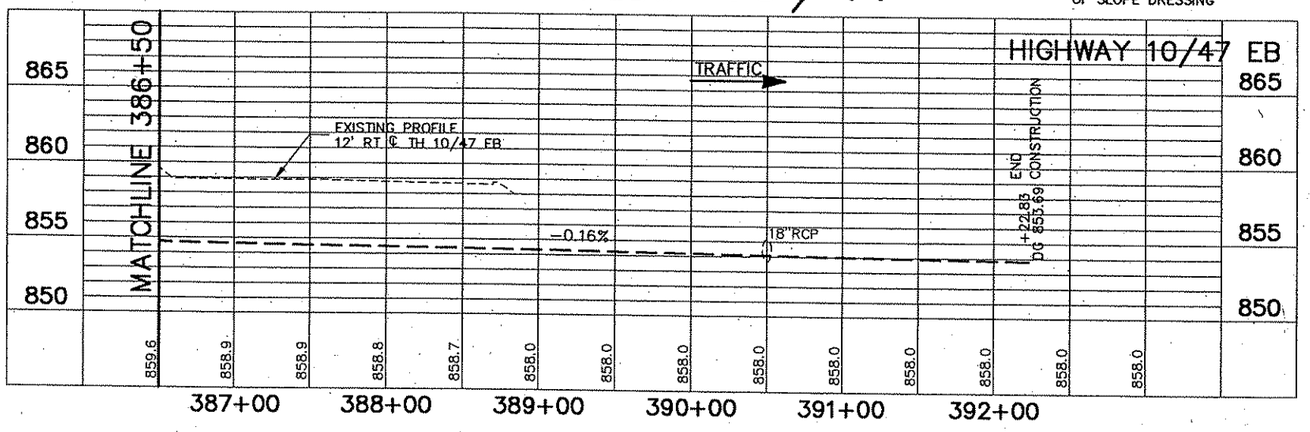
SHEET NO. 167 / 681

PLOT DATE: Jan 9 2007 10:12am DISK FILE NAME: (16.1) R:\33869\33889042\PLAN-SHT\PRD-CONST\042-PI

IF-Roadway Drawings
IF-DWG-BDR
3x34bdr

HIGHWAY 10/47

NOTE
DITCH GRADES SHOWN TO TOP OF SLOPE DRESSING



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042	
DRAWN BY: IKR	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: 042PRF05A
DATE: JANUARY 8, 2007	

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700 Third Street South
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612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

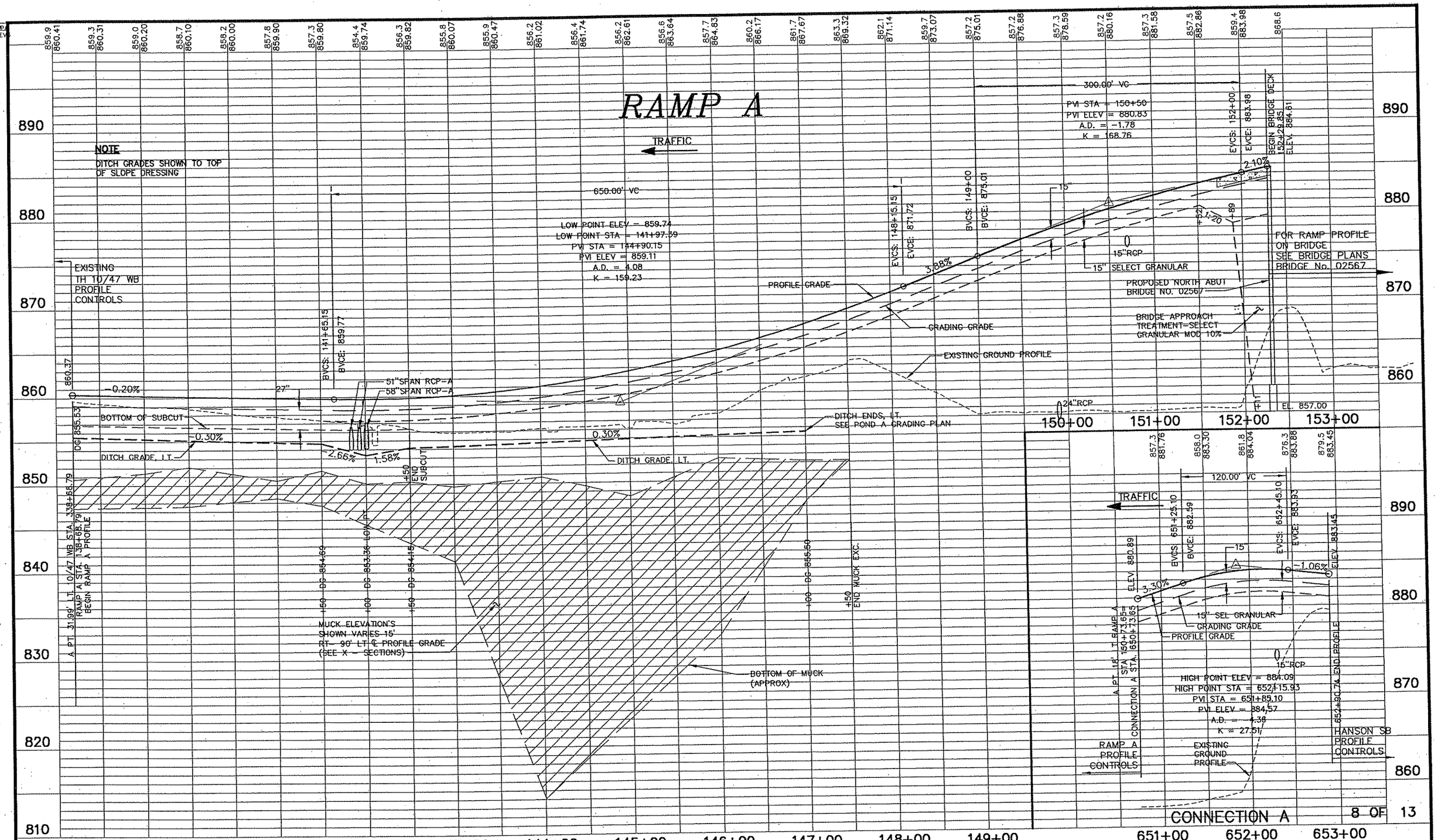
KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PROFILE
HIGHWAY 10/47
STATION 386+50.00 TO END CONSTRUCTION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

PLOT DATE: Jan 007 10:12am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-PF.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: 042PRF06
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

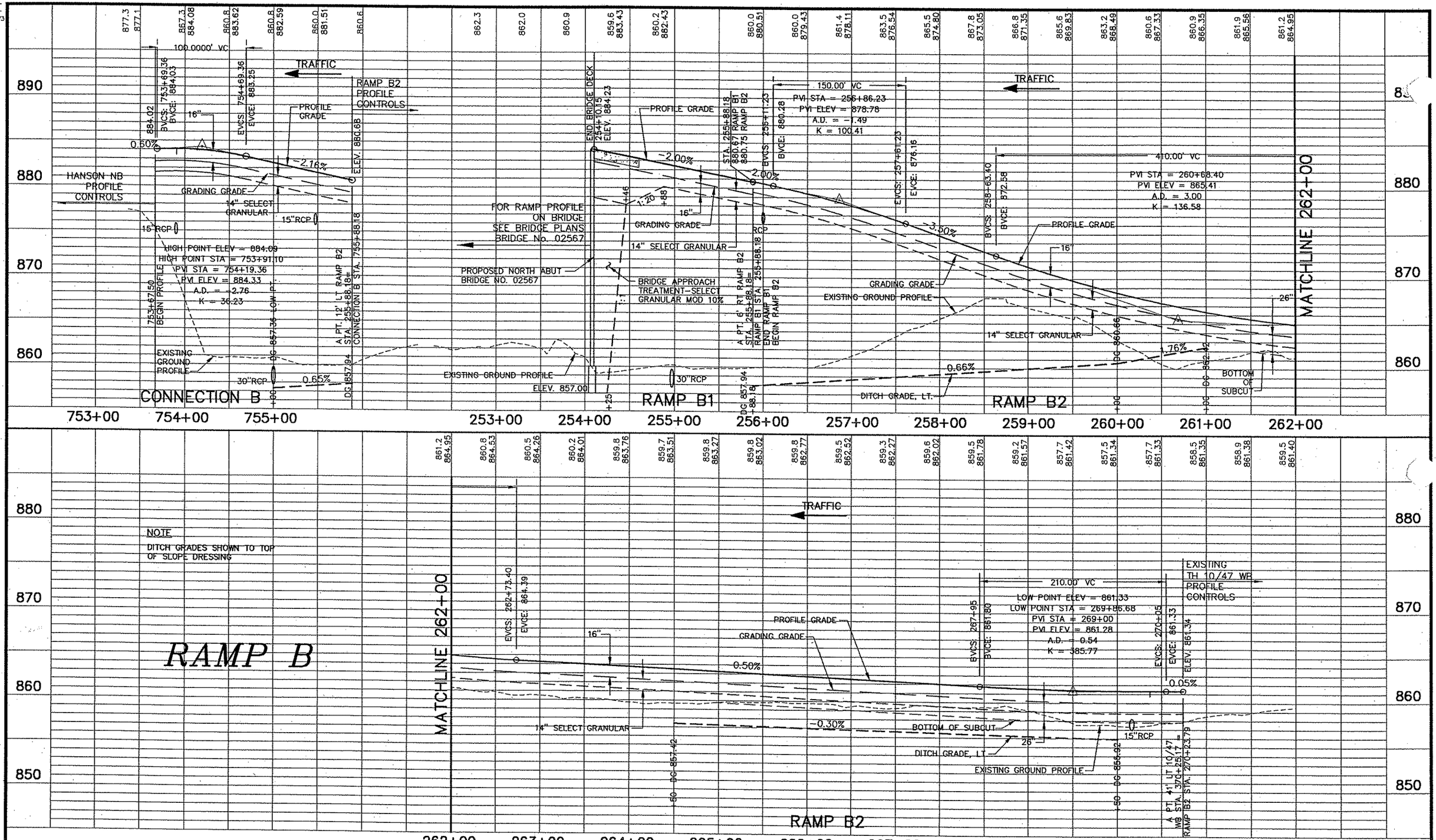
TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PROFILE
RAMP A
CONNECTION A

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 169 / 681

PLOT DATE: J 2007 10:12am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-F wg

Xref Drawings
-RAMPB-REV3
-22x34
-DWG-BDR
34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: IKR	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: 042PRF07
DATE:	JANUARY 8, 2007

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CONSTRUCTION PROFILE

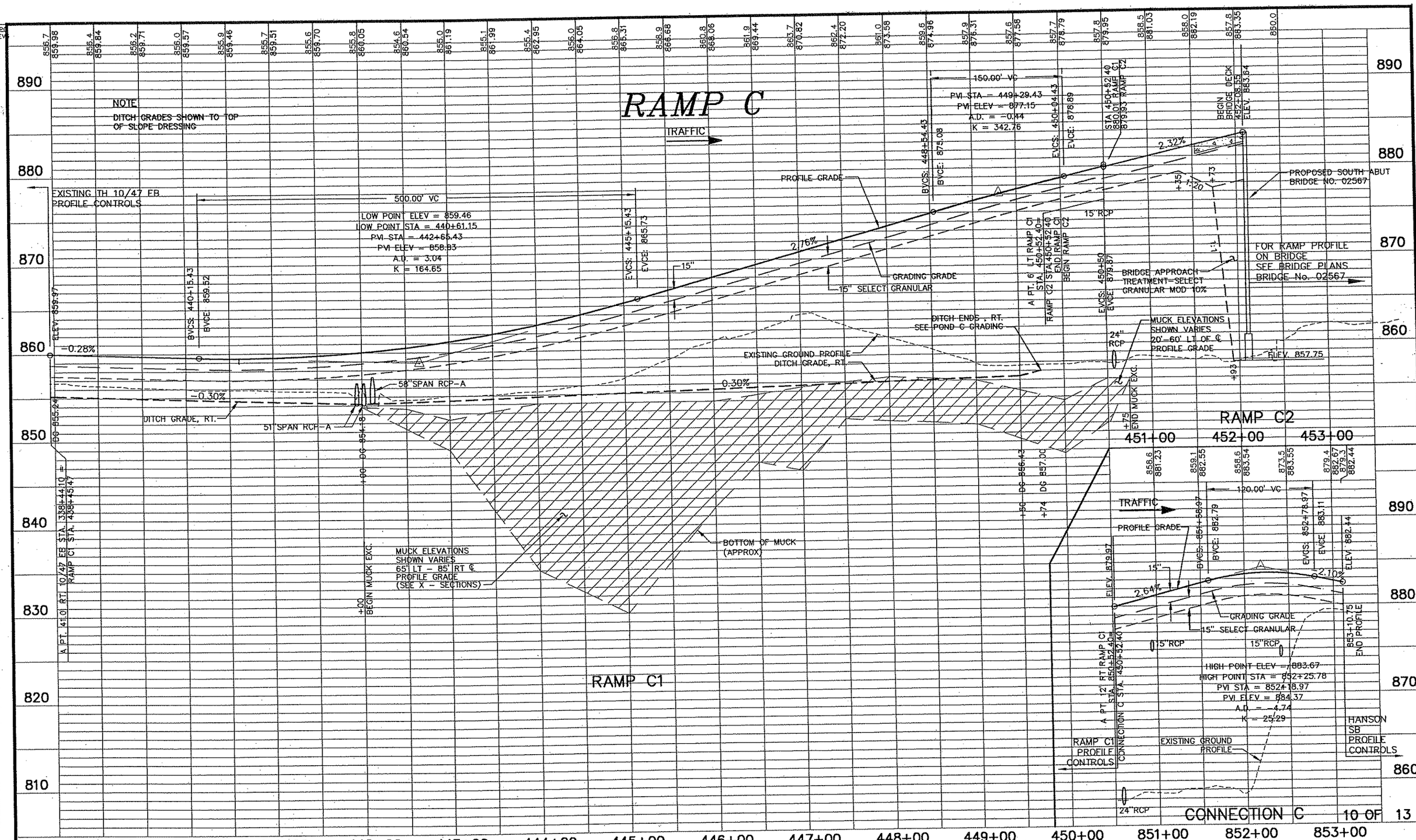
CONNECTION B
RAMP B1 AND RAMP B2

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 170 / 681

9 OF 1

PLOT DATE: Ja. 2007 10:12am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-P ig



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: 042PRF08
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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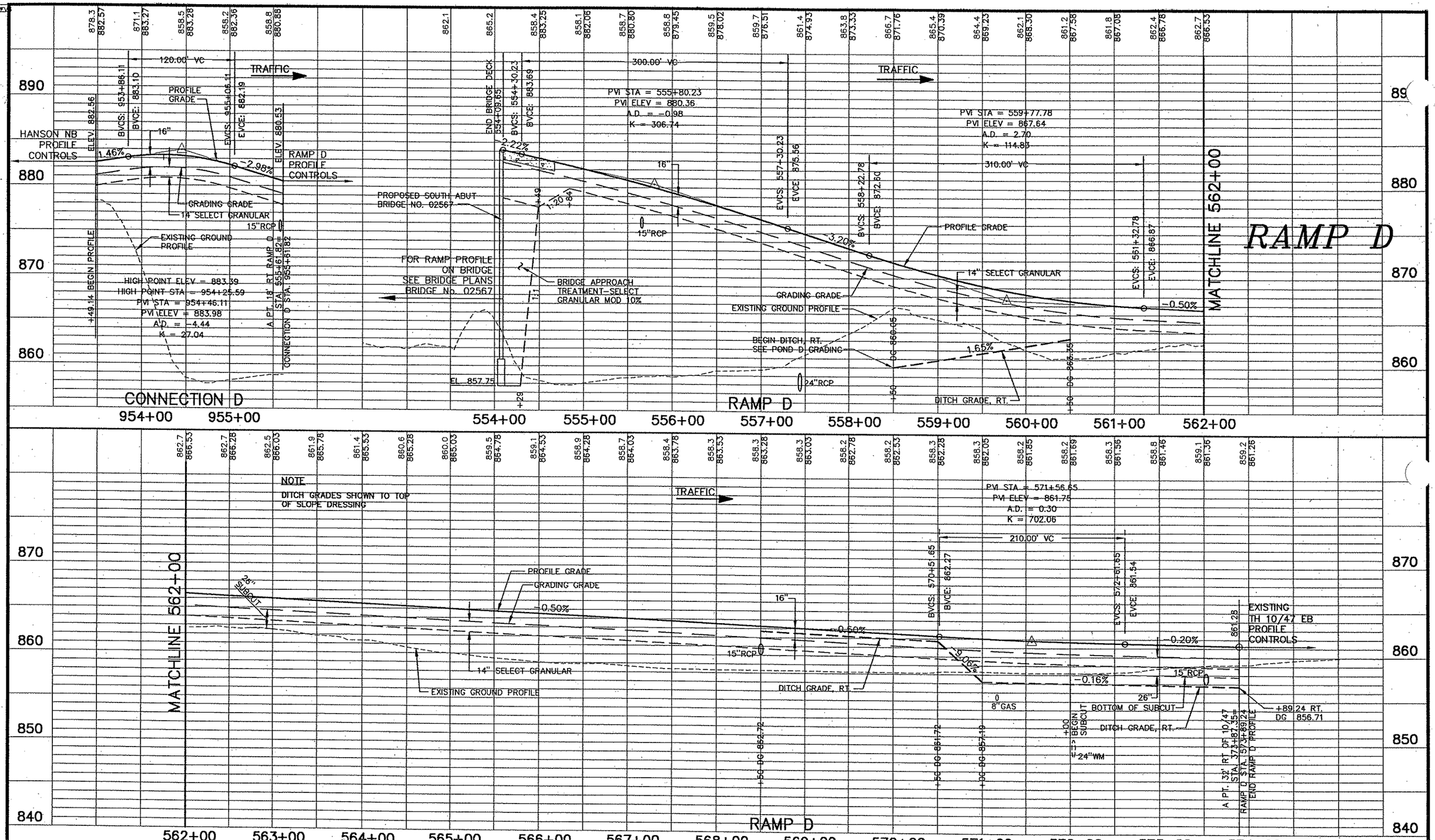
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PROFILE
RAMP C1 AND RAMP C2
CONNECTION C

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 171 / 681

PLOT DATE: Jc 2007 10:12am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-F



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: 042PRF09
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PROFILE
CONNECTION D
RAMP D

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 172 / 681

PLOT DATE: Jan 2007 10:12am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-F .dwg

ld-22x34
:F-DWG-BDR
1x34bdr

NORTHDALE BLVD. WB

NORTHDALE BLVD. EB

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: IKR	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: 042PRF10
DATE:	JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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Karl F. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19661

TH 10/HANSON BOULEVARD INTERCHANGE

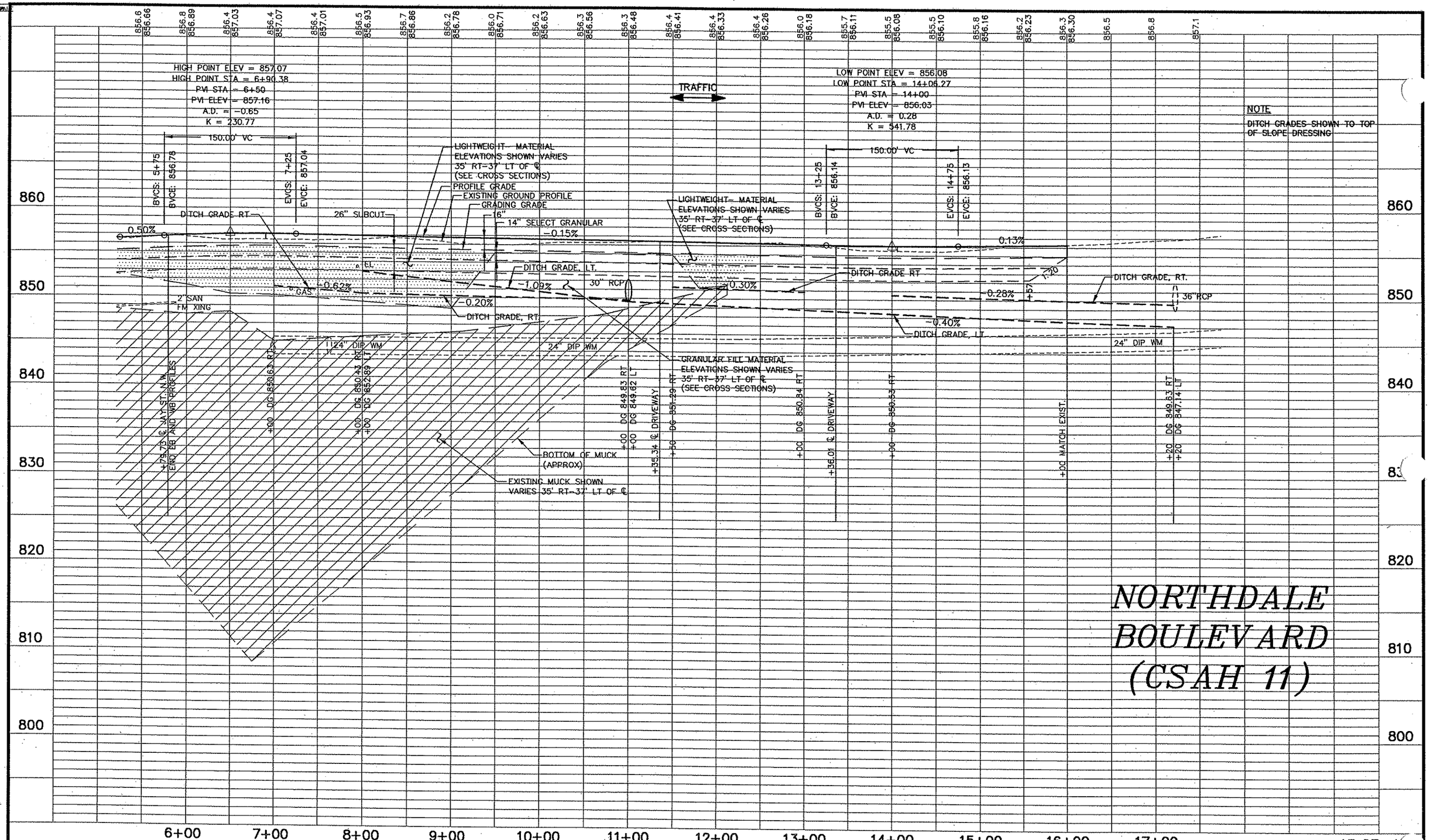
CONSTRUCTION PROFILE

NORTHDALE BOULEVARD (CSAH 11)
STATION 0+00.00 TO JAY STREET

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 173 / 681

PLOT DATE: Jx 2007 10:12am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-F.dg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: 042PRF11
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

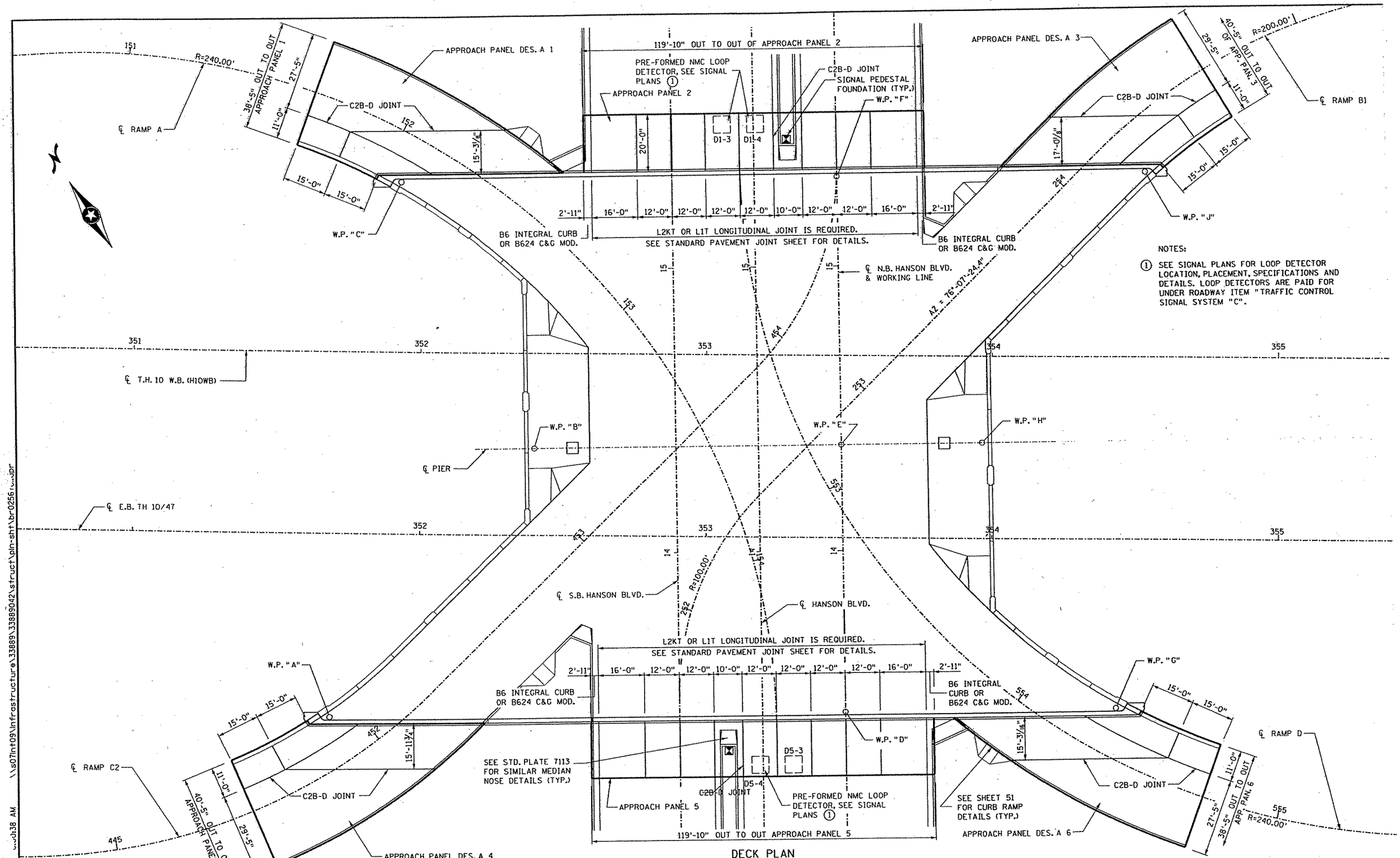
TH 10/HANSON BOULEVARD INTERCHANGE
CONSTRUCTION PROFILE
NORTHDALE BLVD. (CSAH 11)
JAY STREET TO STA. 16+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 174
681

13 OF 1

PLOT DATE: Jc 2007 10:12am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-P



NOTES:

① SEE SIGNAL PLANS FOR LOOP DETECTOR LOCATION, PLACEMENT, SPECIFICATIONS AND DETAILS. LOOP DETECTORS ARE PAID FOR UNDER ROADWAY ITEM "TRAFFIC CONTROL SIGNAL SYSTEM "C".

DECK PLAN

S.P. NO. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D. Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

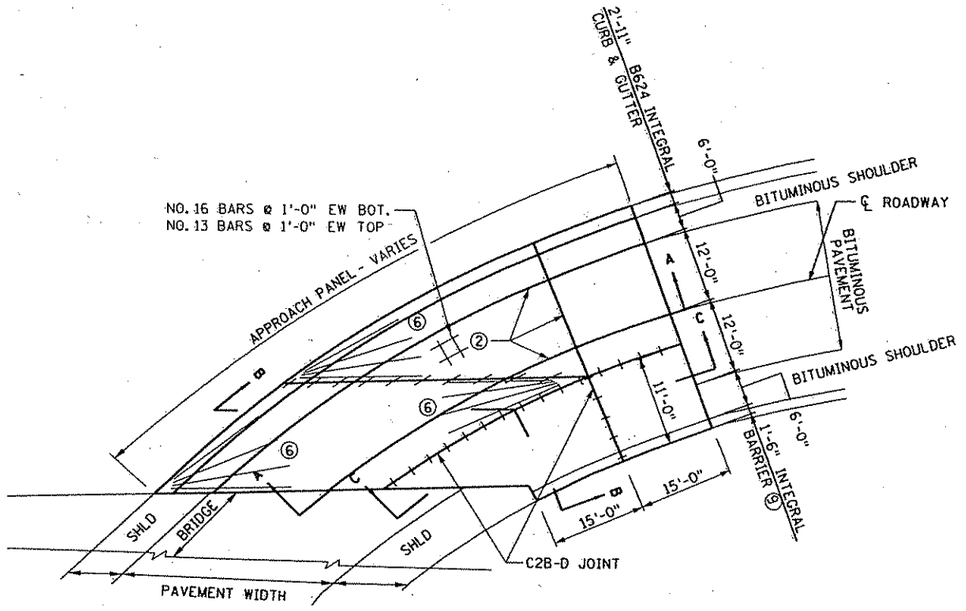
TITLE: APPROACH PANEL DETAIL

DES: JMF	DR: JAS	APPROVED:
CHK: DDL	CHK: JMF	

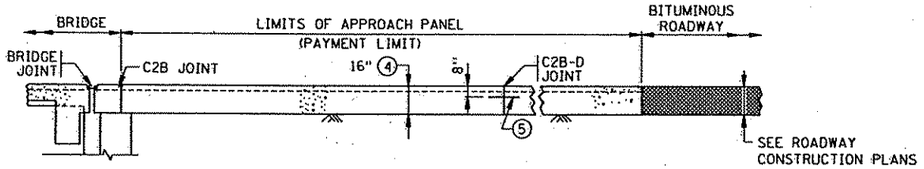
SHEET NO. 175 OF 681 SHEETS

BRIDGE NO. 02567

1/8/2007 ...0:38 AM \\s07int09\infrastructure\33889\33889042\struct\pln-sht\br0256...dpr

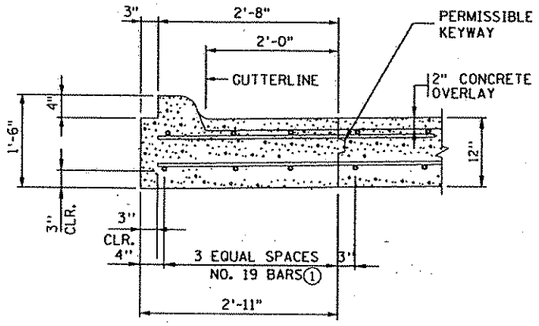


DIVIDED-URBAN ROADWAY PLAN



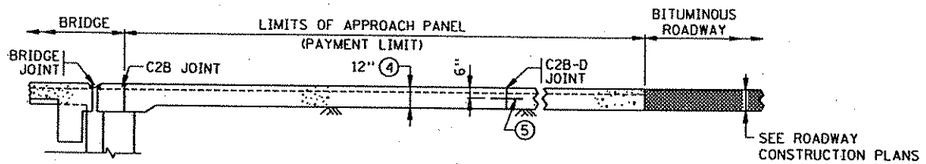
SECTION C-C

(REINFORCEMENT NOT SHOWN)



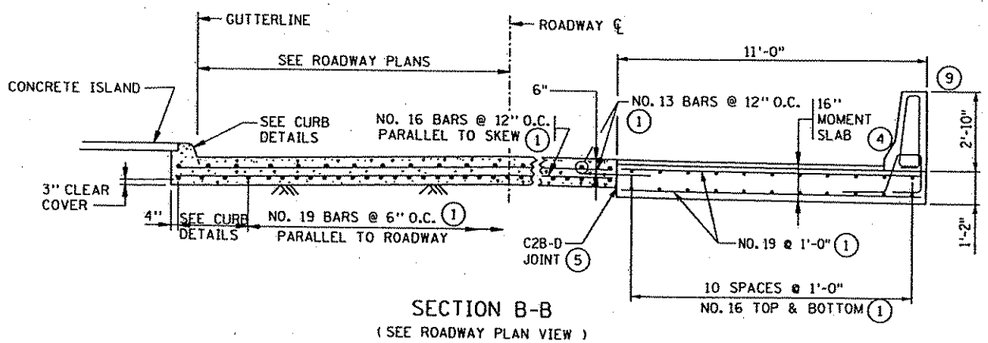
CURB DETAIL

(B6 INTEGRAL CURB OR B624 MODIFIED CURB AND GUTTER)



SECTION A-A

(REINFORCEMENT NOT SHOWN)



SECTION B-B

(SEE ROADWAY PLAN VIEW)

NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS.

SEE STD. PLATE 7036 FOR PEDESTRIAN CURB RAMP DETAILS. REQUIRED ON APPROACH PANEL DES. A-1 AND DES. A-6.

① ALL REINFORCEMENT IN APPROACH PANEL AND CURB SHALL BE GRADE 60 AND EPOXY COATED AS PER SPEC. 3301.

② L2KT OR L1T LONGITUDINAL JOINT IS REQUIRED. SEE STANDARD PAVEMENT JOINT SHEET FOR DETAILS.

③ EDGE OF PANEL PERPENDICULAR TO GUTTER.

④ APPROACH SLAB THICKNESS SHOWN INCLUDES ANY CONCRETE OVERLAY THAT MAY BE REQUIRED. SEE BRIDGE PLANS FOR REQUIREMENTS. CONCRETE OVERLAYS TO BE INCLUDED IN BRIDGE QUANTITIES AND DONE AT THE SAME TIME BY BRIDGE CONTRACTOR.

⑤ CONTRACTION JOINT C2B-D WITH 1-1/2" DIA. X 1'-6" LG. EPOXY COATED DOWEL BARS AT 12" SPACING PARALLEL TO ℄ OF ROADWAY. CAGES NOT REQUIRED.

⑥ FAN 4 - NO. 16 BARS 8'-0" LONG AS SHOWN FOR SKEWS OVER 45°.

⑦ SEE ROADWAY PLAN FOR BRIDGE APPROACH ROADWAY INFORMATION.

⑧ CONCRETE SHOULDERS INCLUDED IN PAYMENT FOR APPROACH PANEL QUANTITY.

⑨ TRANSITION BARRIER FROM TYPE MOD. P-1 AT ABUTMENT TO TYPE F AT END OF APPROACH. SEE BRIDGE APPROACH PANEL DETAILS. INCLUDE IN PRICE BID FOR ITEM 2301 "APPROACH PANEL DES. A".

URS
Thresher Square
700 South Third Street
Minneapolis, MN 55415

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: APPROACH PANEL PANEL DES. A
DESIGN A - 1, 3, 4 & 6

S.P. NO. 0215-59, 02-611-29, 114-010-14, 114-020-28

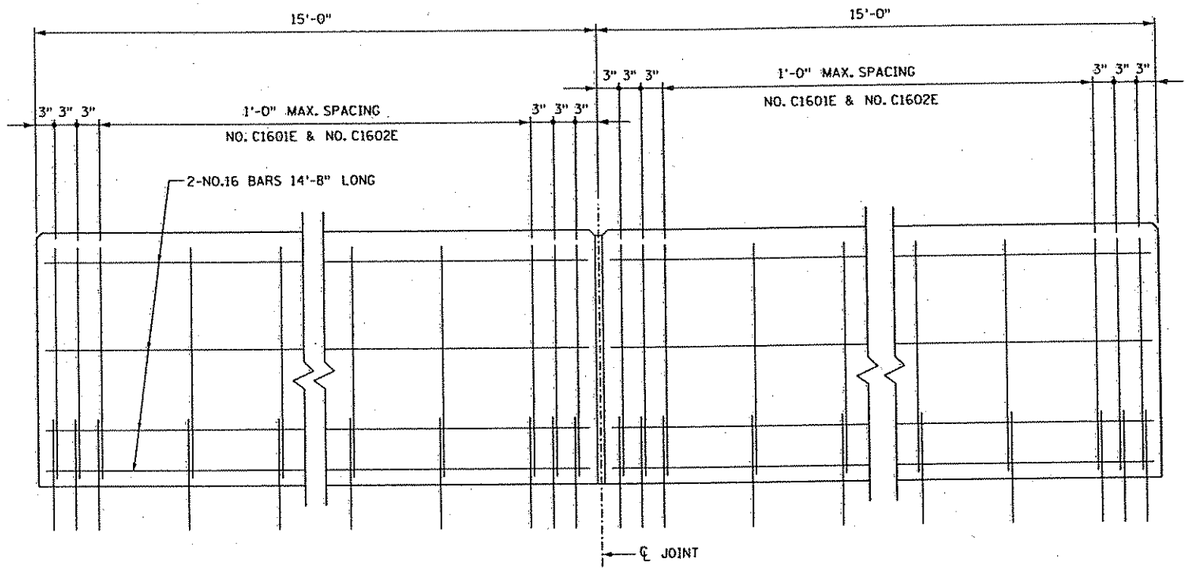
FIG. 5-297.230 MOD.

DES: JMF	DR: JAS	APPROVED:
CHK: DDL	CHK: JMF	

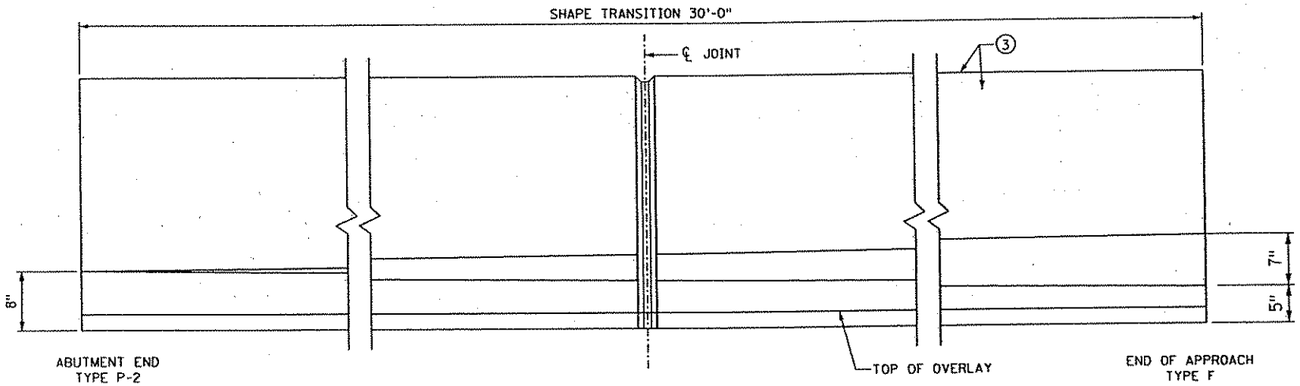
SHEET NO. 176 OF 681 SHEETS

BRIDGE NO. 02567

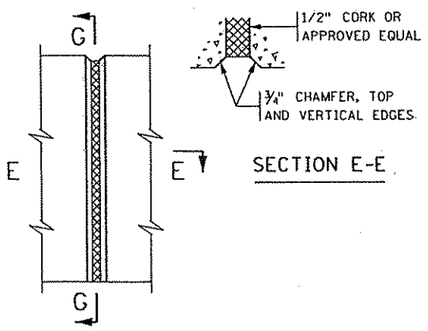
1/8/2007 8:00:39 AM \\s07fnt09\Infrastructure\33889\33889042\struct\pln-sht\br02567tz.dgn



ELEVATION OF RAILING



TRANSITION DETAIL

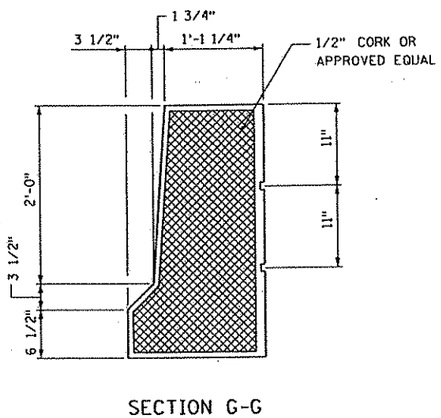


ELEVATION

SECTION E-E

JOINT DETAILS

INSIDE FACE



SECTION G-G

SUMMARY OF QUANTITES FOR BRIDGE APPROACH PANELS

ITEM NO.	BID ITEM	UNITS	PANEL 1	2	3	4	5	6	TOTAL
2301	APPROACH PANEL	SQ. YD.	--	266	--	--	266	--	532
2301	APPROACH PANEL DES. A	SQ. YD.	265	--	243	265	--	265	1038

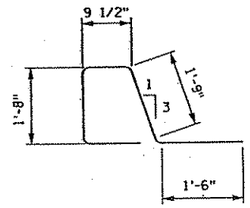
SUMMARY OF QUANTITES FOR BRIDGE APPROACH PANEL (1)

	STRUCTURE CONC. (3X42) - APP. PANEL 1	81	CU. YD.
	STRUCTURE CONC. (3X42) - APP. PANEL 2	79	CU. YD.
	STRUCTURE CONC. (3X42) - APP. PANEL 3	75	CU. YD.
	STRUCTURE CONC. (3X42) - APP. PANEL 4	81	CU. YD.
	STRUCTURE CONC. (3X42) - APP. PANEL 5	79	CU. YD.
	STRUCTURE CONC. (3X42) - APP. PANEL 6	81	CU. YD.
(2)	STRUCTURE CONC. (3Y46)	16	CU. YD.
	REINFORCEMENT BARS - APP. PANEL 1	11400	LBS.
	REINFORCEMENT BARS - APP. PANEL 2	13300	LBS.
	REINFORCEMENT BARS - APP. PANEL 3	10770	LBS.
	REINFORCEMENT BARS - APP. PANEL 4	11440	LBS.
	REINFORCEMENT BARS - APP. PANEL 5	13300	LBS.
	REINFORCEMENT BARS - APP. PANEL 6	11565	LBS.

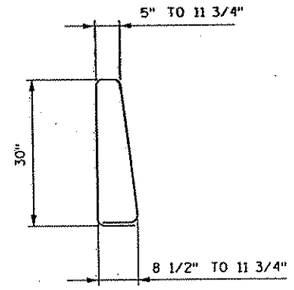
(1) QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY

(2) 4 CU. YDS. PER APPROACH PANELS 1, 3, 4 AND 6. INCLUDE STRUCTURE CONCRETE (3Y36) (RAILING CONCRETE) IN 2301 "APPROACH PANEL DES. A".

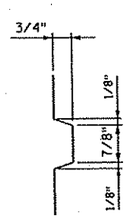
(3) SPECIAL SURFACE FINISH COLOR SHALL BE CONSIDERED AS INCIDENTAL WORK. SEE SPECIAL PROVISIONS.



C1601E



C1602E SERIES



REVEAL DETAIL

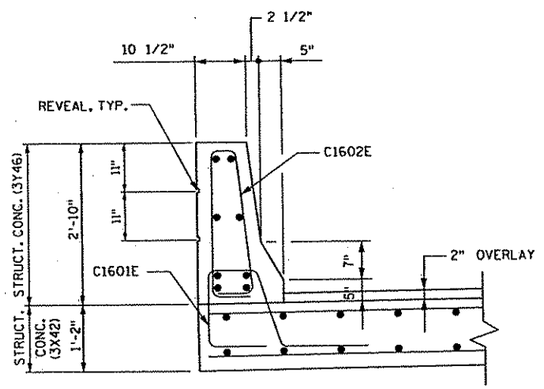
NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

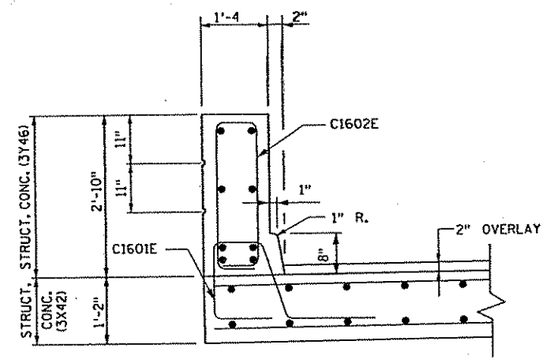
ALL REINFORCEMENT IN APPROACH PANEL, RAILING AND CURB SHALL BE GRADE 60 AND EPOXY COATED AS PER SPEC. 3301.

APPROACH SLAB THICKNESS SHOWN INCLUDES ANY CONCRETE OVERLAY THAT MAY BE REQUIRED. SEE BRIDGE PLANS FOR REQUIREMENTS. CONCRETE OVERLAYS TO BE INCLUDED IN BRIDGE QUANTITIES AND DONE AT THE SAME TIME BY BRIDGE CONTRACTOR.

PRICE BID FOR 2301 "APPROACH PANEL DES. A" SHALL INCLUDE CONCRETE RAILING.



MOMENT SLAB DETAIL AT END OF APPROACH PANEL



MOMENT SLAB DETAIL AT THE ABUTMENT

S.P. NO. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Tarasher Square 700 South Third Street Minneapolis, MN 55416

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

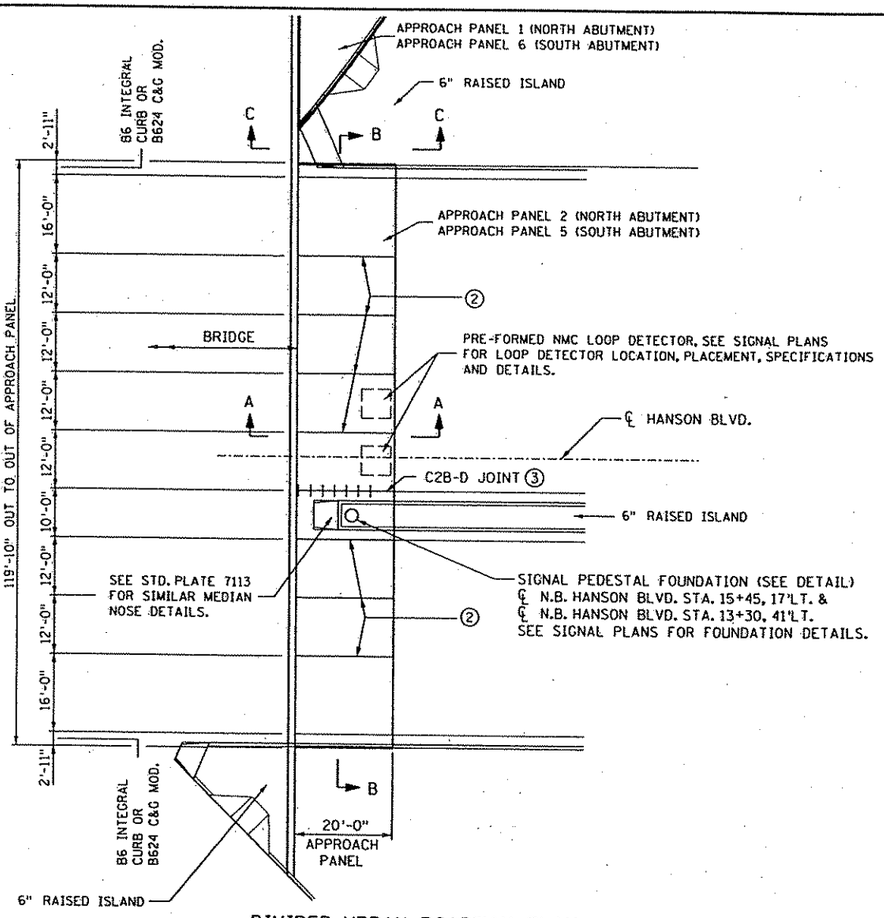
TITLE: BRIDGE APPROACH PANEL DETAILS

DES: JAS | DR: JAS | APPROVED:
CHK: JMF | CHK: JMF

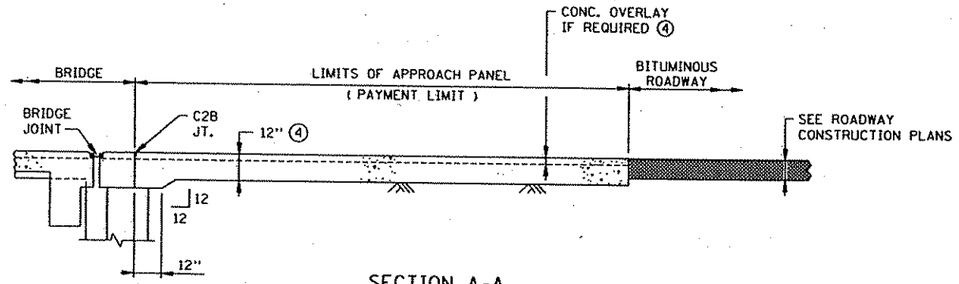
SHEET NO. 177 OF 681 SHEETS

BRIDGE NO. 02567

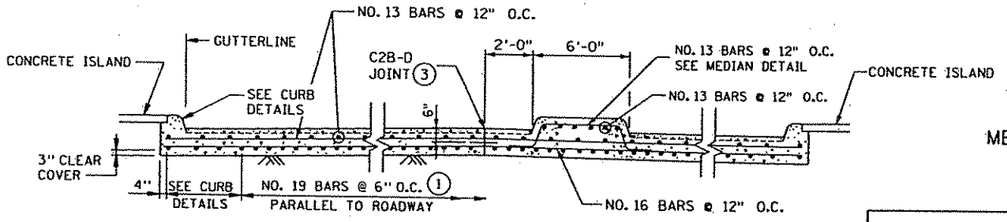
1/8/2007 8:00:40 AM \\s07fnt09\Infrastructure\33889\33889042\struct\pln-sht\br02567d4.dgn



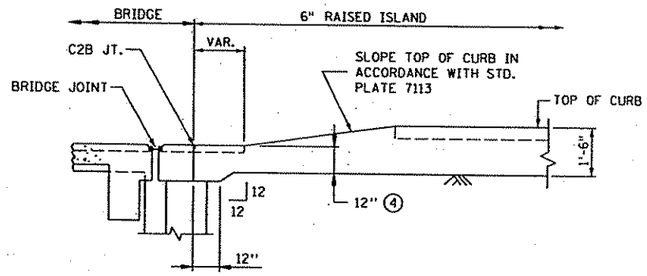
DIVIDED-URBAN ROADWAY PLAN
SOUTH APPROACH PANEL SHOWN
NORTH APPROACH PANEL SIMILAR



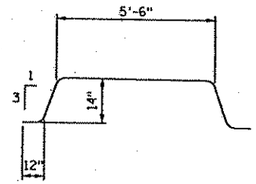
SECTION A-A
(REINFORCEMENT NOT SHOWN)
(PARAPET ABUTMENT SHOWN)



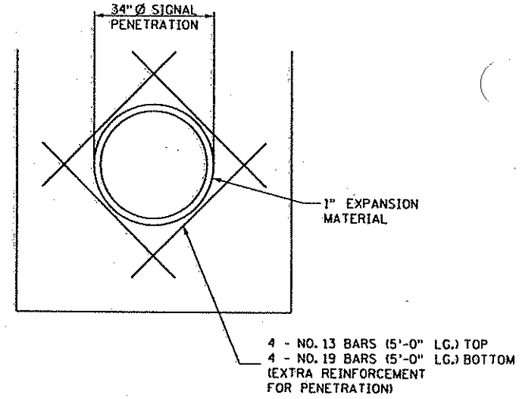
SECTION B-B
(SEE ROADWAY PLAN VIEW)



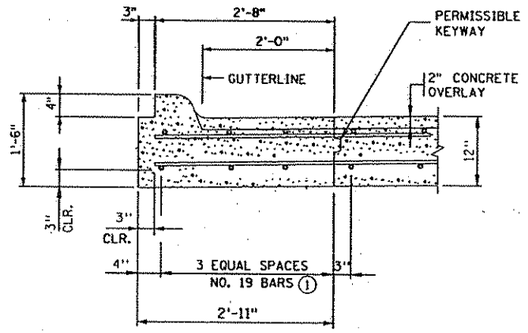
SECTION C-C
(REINFORCEMENT NOT SHOWN)



MEDIAN REINFORCEMENT DETAIL



PEDESTAL DETAIL



CURB DETAIL
(B6 INTEGRAL CURB OR B624 MODIFIED CURB AND GUTTER)

NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

① ALL REINFORCEMENT IN APPROACH PANEL, SILL AND CURB SHALL BE GRADE 60 AND EPOXY COATED AS PER SPEC. 3301.

② L2KT OR L1T LONGITUDINAL JOINT IS REQUIRED. SEE STANDARD PAVEMENT JOINT SHEET FOR DETAILS.

③ CONTRACTION JOINT C2B-D WITH 1-1/2" DIA. X 1'6" LG. EPOXY COATED DOWEL BARS AT 12" SPACING PARALLEL TO ℄ OF ROADWAY. CAGES NOT REQUIRED.

④ APPROACH SLAB THICKNESS SHOWN INCLUDES ANY CONCRETE OVERLAY THAT MAY BE REQUIRED. SEE BRIDGE PLANS FOR REQUIREMENTS. CONCRETE OVERLAYS TO BE INCLUDED IN BRIDGE QUANTITIES AND DONE AT THE SAME TIME BY BRIDGE CONTRACTOR.

URS
Thresher Square
700 South Third Street
Minneapolis, MN 55415

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: APPROACH PANEL DETAILS 2 & 5

S.P. NO. 0215-59, 02-611-29, 114-010-14, 114-020-28

FIG. 5-297.229 MOD.

DES: JMF DR: JAS APPROVED:
CHK: DDL CHK: JMF

SHEET NO. 178 OF 681 SHEETS

BRIDGE NO. 02567

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1/8/2007 10:41 AM

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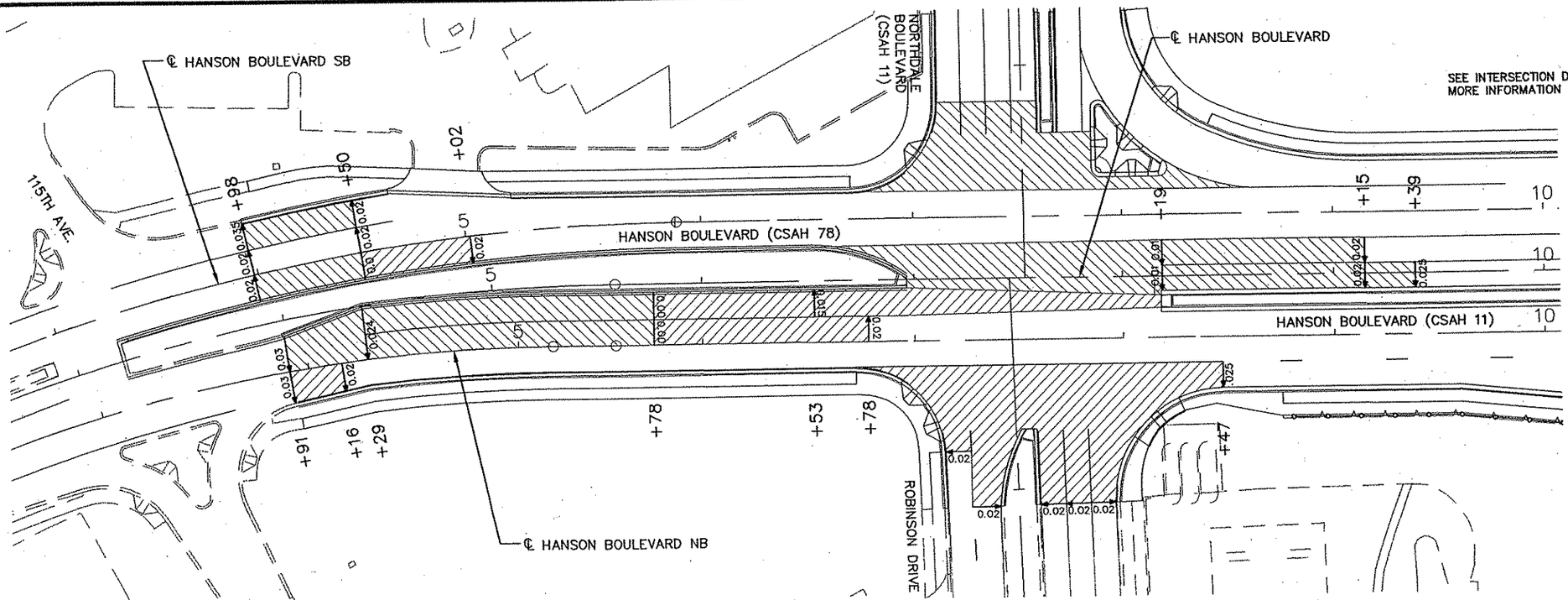
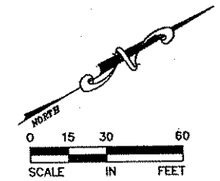
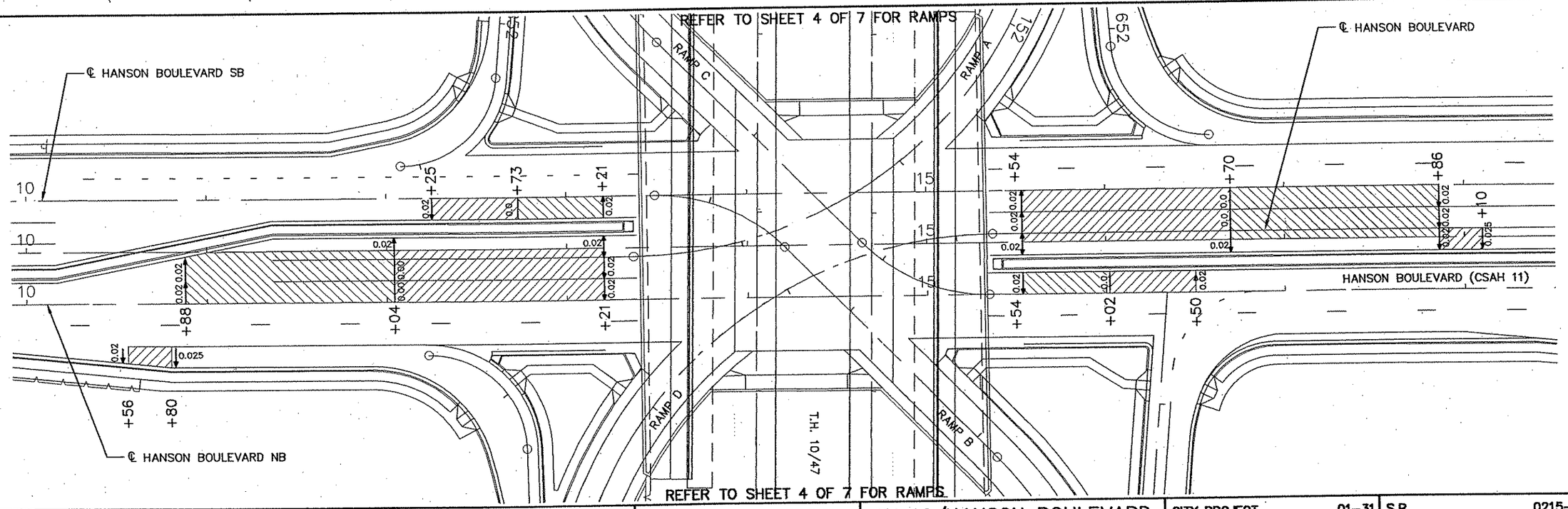
4SN-ETO
ign-psg
4SN-PCO
EF-DWG-BDR
2x34hdr



NOTES:
1. ALL CROSS SLOPES ARE IN FEET PER FEET.
2. STATIONING FOR SOUTHBOUND HANSON BOULEVARD IS BASED ON SOUTHBOUND ALIGNMENT. STATIONING FOR NORTHBOUND HANSON BOULEVARD IS BASED ON NORTHBOUND ALIGNMENT.





REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: ELJ	DESIGN BY: SAW/JCD
CHKED. BY: SAW	DWG. NAME: 042SE01
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

SUPERELEVATION PLAN

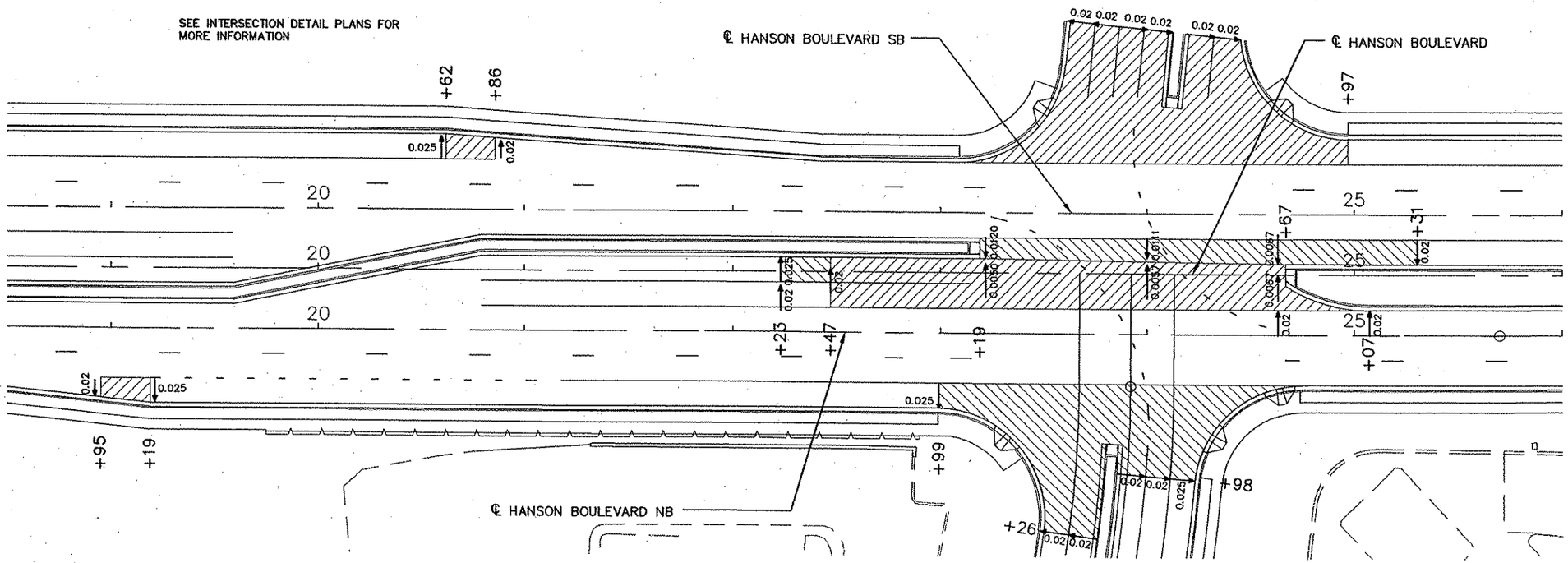
HANSON BOULEVARD
STATION 3+17.95 TO STATION 19+00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

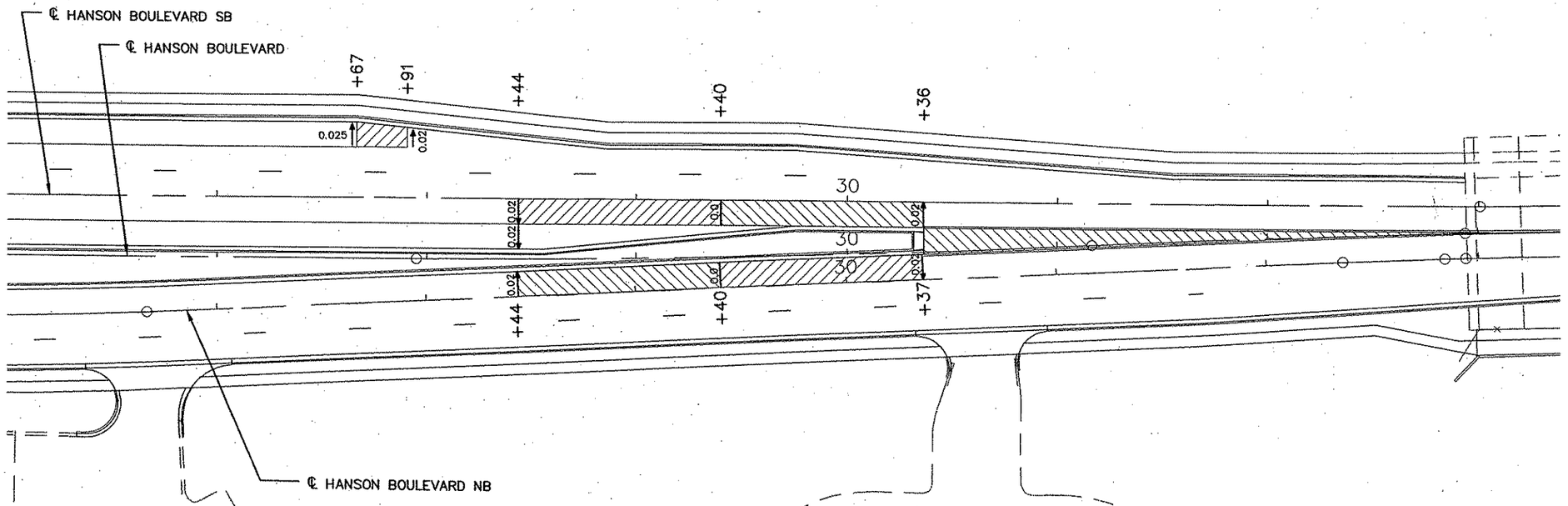
SHEET NO. 179 / 681

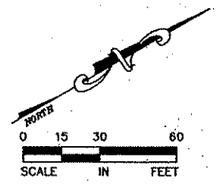
PLOT DATE: Jc 2007 10:14am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-SI

SEE INTERSECTION DETAIL PLANS FOR MORE INFORMATION



REFER TO SHEET 7 OF 7 FOR NORTHDALE BOULEVARD





NOTES:
1. ALL CROSS SLOPES ARE IN FEET PER FEET.
2. STATIONING FOR SOUTHBOUND HANSON BOULEVARD IS BASED ON SOUTHBOUND ALIGNMENT. STATIONING FOR NORTHBOUND HANSON BOULEVARD IS BASED ON NORTHBOUND ALIGNMENT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889--042
DRAWN BY: IKR | DESIGN BY: SAW/JCD
CHKED. BY: SAW | DWG. NAME: 042SE02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

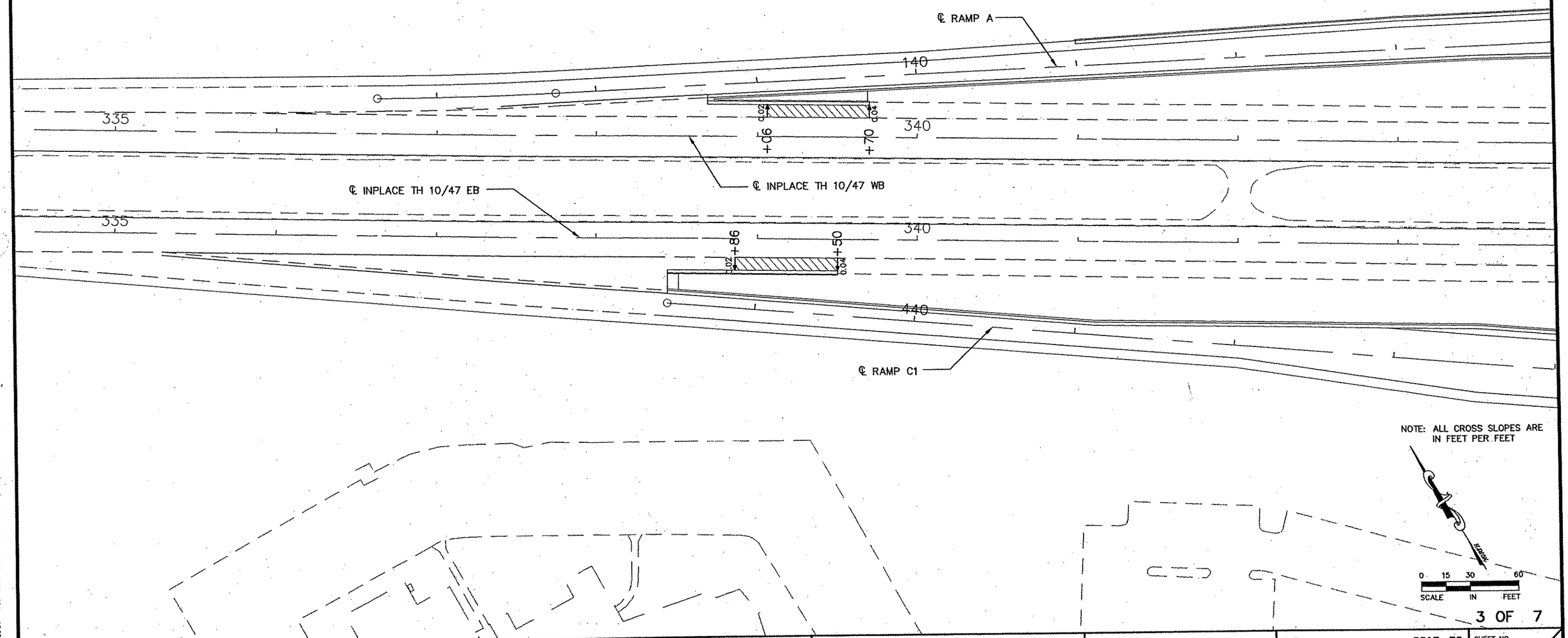
TH 10/HANSON BOULEVARD INTERCHANGE
SUPERELEVATION PLAN
HANSON BOULEVARD
STATION 19+00 TO STATION 33+00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 180 / 681

PLOT DATE: Jan 2007 10:15am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-S.

Xref'd Drawings
2SUPERS
sn--peg
ISN-ETO
ISN-PCO
ISN-ALI
F--DWG-BDR
x34bdr



3 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW/JCD
CHKD. BY: SAW | DWG. NAME: 042SE03
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
SUPERELEVATION PLAN
HIGHWAY 10/47
RAMP A & RAMP C

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 181 / 681

PLOT DATE: Jan 2007 10:15am DISK FILE NAME: (16.1) R:\33889\33689042\PLAN-SHT\PRD-CONST\042-S

Xref'd Drawings
I2SUPERS
ısn-psg
4SN-ETO
4SN-PCO
4SN-ALJ
3F-DWG-BDR
3x34bdr

REFER TO SHEET 1 OF 7 FOR HANSON BOULEVARD

SEE INTERSECTION DETAIL PLANS FOR MORE INFORMATION

℄ HANSON BOULEVARD SB

℄ CONNECTION A

℄ CONNECTION B

℄ RAMP B2

AXIS OF ROTATION

℄ RAMP A

RAMP A

RAMP B

℄ RAMP B1

℄ RAMP C2

AXIS OF ROTATION

RAMP C

℄ RAMP C1

RAMP D

℄ RAMP D

℄ CONNECTION C

℄ CONNECTION D

℄ HANSON BOULEVARD NB

BR. NO. 02567

T.H. 10/47

10' SHLD

10' SHLD

NOTE: ALL CROSS SLOPES ARE IN FEET PER FEET

REFER TO SHEET 1 OF 7 FOR HANSON BOULEVARD

0 15 30 60
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042	
DRAWN BY: ELJ	DESIGN BY: SAW/JCD
CHKED. BY: SAW	DWG. NAME: 042SE04
DATE: JANUARY 8, 2007	

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

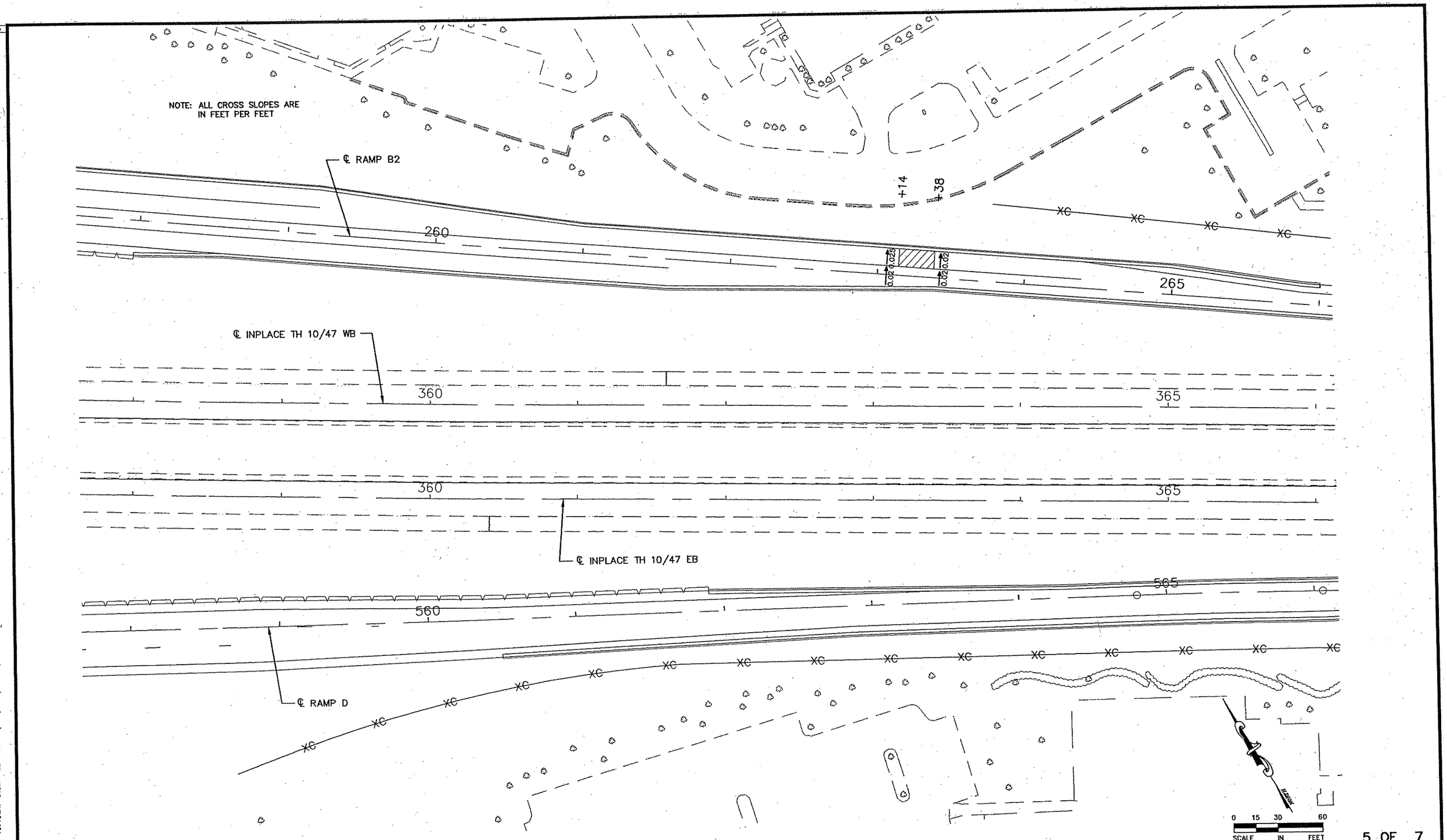
TH 10/HANSON BOULEVARD INTERCHANGE

SUPERELEVATION PLAN

TH 10/47 AND HANSON BOULEVARD INTERCHANGE

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

PLOT DATE: Jan 10, 2007 10:15am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-SE



5 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ
DESIGN BY: SAW/JCD
CHKED. BY: SAW
DWG. NAME: 042SE04A
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
SUPERELEVATION PLAN
TH 10/47 AND HANSON BOULEVARD INTERCHANGE

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 183 / 681

PLOT DATE: Jan 2007 10:15am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRO-CONST\042-SE

Xref'd Drawings
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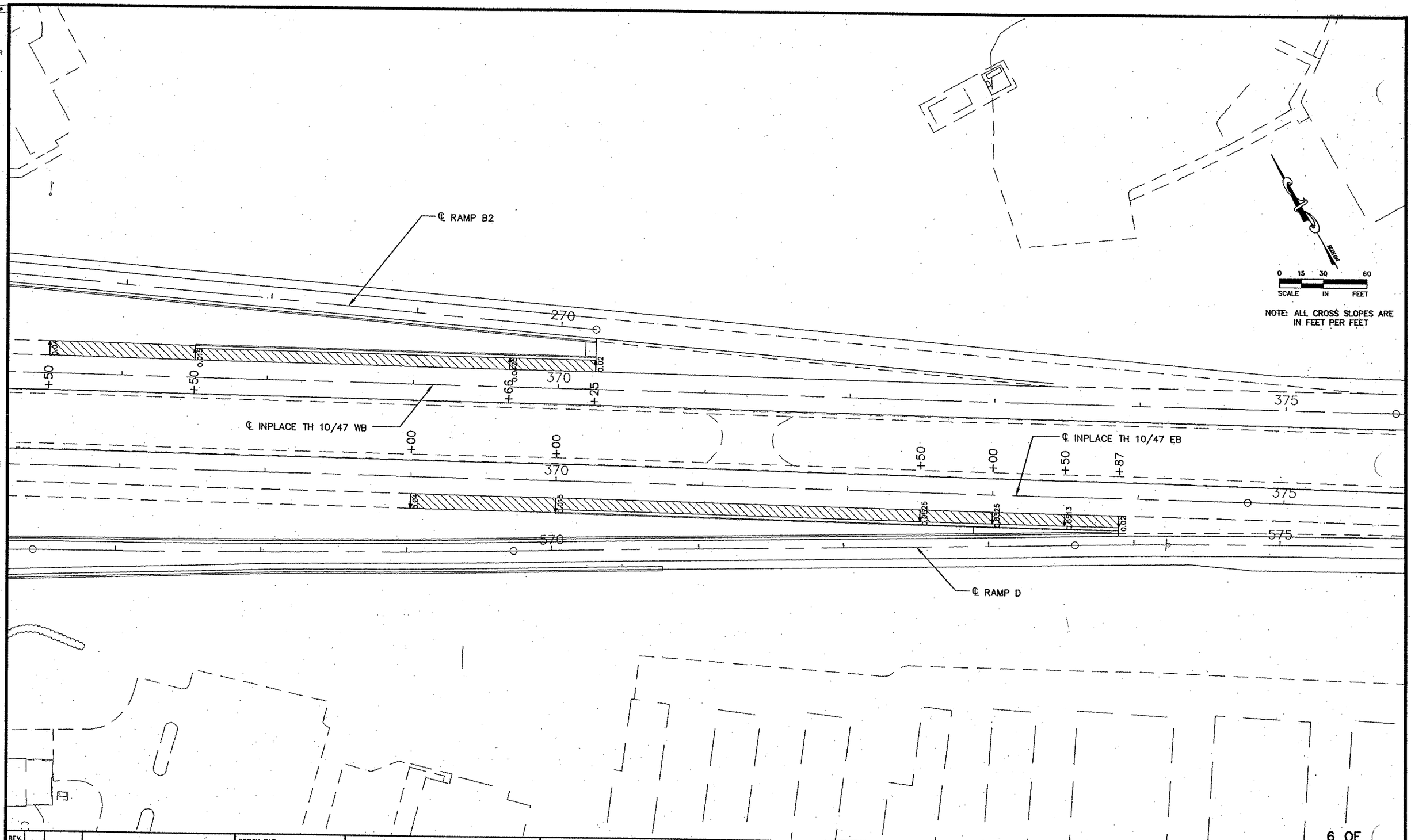
INSN-ETO
INSN-PCO
INSN-ALI
REF-DWG-BDR
12x34bdr



NOTE: ALL CROSS SLOPES ARE IN FEET PER FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW/JCD
CHKED. BY: SAW | DWG. NAME: 042SE05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

SUPERELEVATION PLAN

HIGHWAY 10/47
RAMP B & RAMP D

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 184

PLOT DATE: Jul 2007 10:15am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-SE

NOTES:

1) ALL CROSS SLOPES ARE IN FEET PER FEET.

2) STATIONING ON NORTHDALE BOULEVARD WEST OF JAY STREET IS BASED ON NORTHDALE EASTBOUND AND NORTHDALE WESTBOUND ALIGNMENTS.
STATIONING ON NORTHDALE BOULEVARD EAST OF JAY STREET IS BASED ON NORTHDALE BASELINE ALIGNMENT.

7 OF 7

Xref'd Drawings: 42SUPERS, nsn-psg, NSN-ETO, NSN-PCO, NSN-ALI, XF-DWG-BDR, 22x34bdr

PLOT DATE: Jg 2007 10:15am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-S

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042	
DRAWN BY: ELJ	DESIGN BY: SAW/JCD
CHKED. BY: SAW	DWG. NAME: 042SE06
DATE: JANUARY 8, 2007	

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19881

TH 10/HANSON BOULEVARD INTERCHANGE
SUPERELEVATION PLAN
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 185 / 681

Ⓐ GEOMEMBRANE LIMITS. SEE SHEET NO. 202 FOR DETAILS AND INSTALLATION.

Ⓑ LAY GEOMEMBRANE WITH 0.5% GRADE TOWARDS OPENING.

Ⓒ SAFETY CABLE SYSTEM. SEE DETAILS ON SHEET 198.

Ⓓ EL. 864.10 @ ℄ SLEEVE. SEE LIGHTING LAYOUT FOR LOCATION. INCLUDED IN PRICE BID FOR OTHER ITEMS.

RETAINING WALL 1A AND 1B PLAN

0 20'

PROPOSED 24" R.C.P STORM SEWER

℄ RAMP (HNBRA)

℄ RAMP (HNBCA)

146 147 148 149 150 151

50 51 52 53 54 55

12'

13'-6" MOMENT SLAB

6' SHLD.

TYPE F CONC. BARRIER

1601 BEG. RETAINING WALL 1A STA. 50+00.00

1602

℄ RETAINING WALL 1A

1611 BEG. RETAINING WALL 1B STA. 50+00.000

1603 1612 1613 1614

PROPOSED DITCH

℄ RETAINING WALL 1B

346 347 348 349 350 351

10' SHLD.

12'

℄ T.H. 10 W.B. (H10WB)

12'

4' SHLD.

RETAINING WALL 1A PROFILE

EL. 895 EL. 890 EL. 885 EL. 880 EL. 875 EL. 870 EL. 865 EL. 860 EL. 855 EL. 850

FINISHED GROUNDLINE PROPOSED = CONSTRUCTED 4 LANE
FINISHED GROUNDLINE FUTURE = FUTURE CONSTRUCTED 8 LANE

BEG. RETAINING WALL 1A STA. 50+00.00

TOP OF RETAINING WALL

TOP OF RETAINING WALL 1B EL. 873.00

PILASTER

3'-0"

4" Ø N.M.C. SLEEVE Ⓓ

BOTTOM OF (2'-0" X 1'-6" MIN.) UNREIN. CONCRETE LEVELING PAD

FINISHED GROUNDLINE (FUTURE)

FINISHED GROUNDLINE (PROPOSED)

EXISTING GROUNDLINE

PROPOSED 24" R.C.P STORM SEWER INV. EL. 856.51

50 51 52 53 54 55

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: PLAN AND PLOT

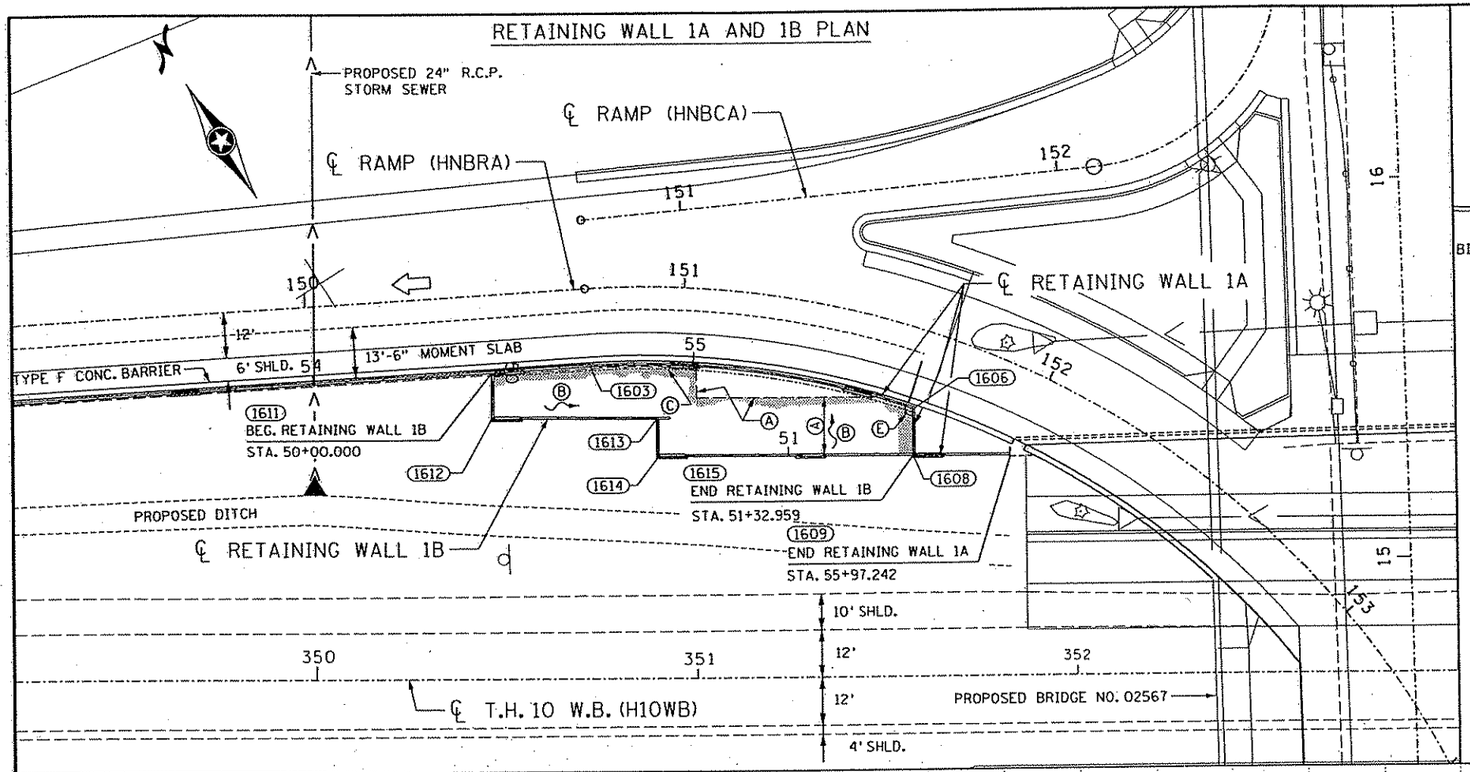
DES: WFS	DR: WFS	APPROVED:
CHK: JMF	CHK: JMF	

SHEET NO. 186 OF 681 SHEETS

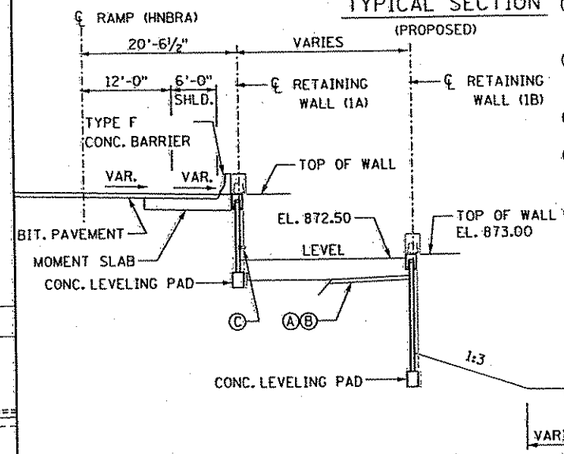
RETAINING WALL 1A

\\s07int09\infrastructure\33889\338890042\struct\pln-sht\042-rw-sht.dgn
8:06:43 AM
1/8/2007

RETAINING WALL 1A AND 1B PLAN



TYPICAL SECTION



Ⓐ GEOMEMBRANE LIMITS. SEE SHEET NO. 202 FOR DETAILS AND INSTALLATION.

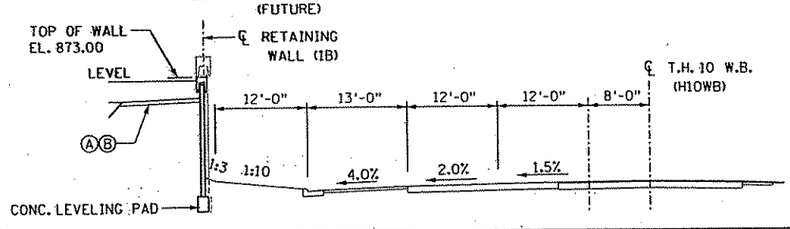
Ⓑ LAY GEOMEMBRANE WITH 0.5% GRADE TOWARDS OPENING.

Ⓒ SAFETY CABLE SYSTEM, SEE DETAILS ON SHEET 198.

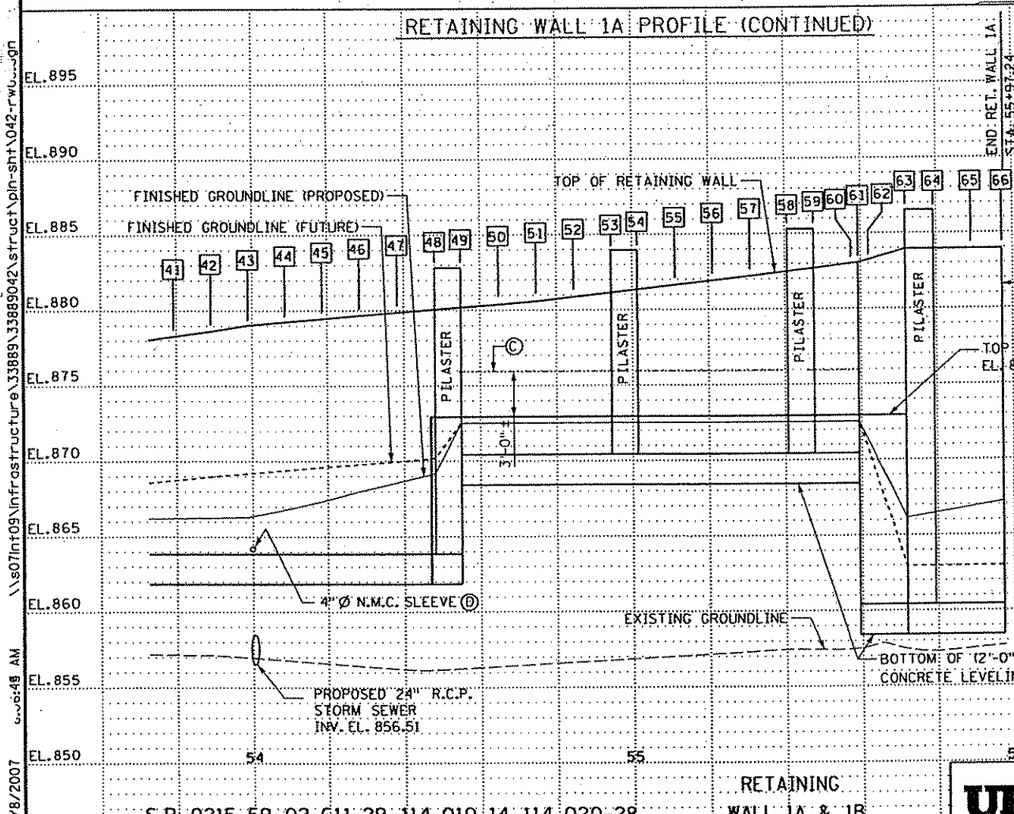
Ⓓ EL. 864.10 @ ℄ SLEEVE, SEE LIGHTING LAYOUT FOR LOCATION. INCLUDED IN PRICE BID FOR OTHER ITEMS.

Ⓔ CONCRETE SPLASH BLOCK. MINIMUM 2'x 2'x 6" MN/DOT (3Y46). INCLUDED IN PRICE BID FOR OTHER ITEMS.

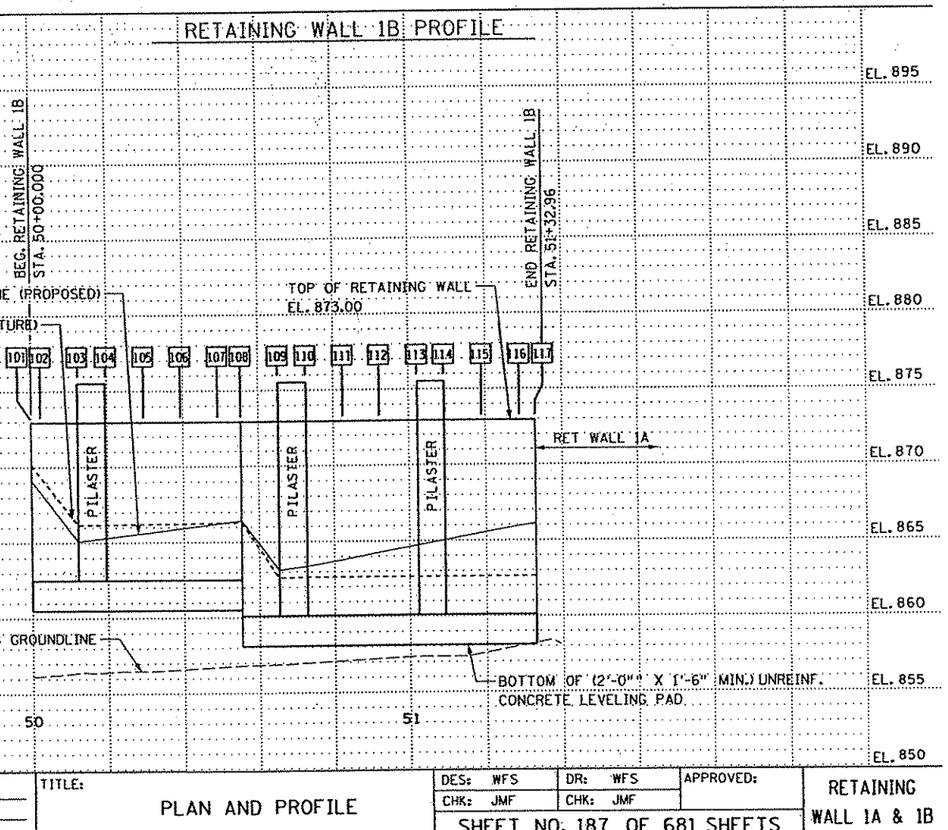
TYPICAL SECTION (FUTURE)



RETAINING WALL 1A PROFILE (CONTINUED)



RETAINING WALL 1B PROFILE



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1/8/2007 ...6:45 AM

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

RETAINING WALL 1A & 1B

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D. Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: PLAN AND PROFILE

DES: WFS	DR: WFS	APPROVED:
CHK: JMF	CHK: JMF	

SHEET NO. 187 OF 681 SHEETS

RETAINING WALL 1A & 1B

RETAINING WALL 2A PLAN

0 20'

℄ RAMP (HNBRB1)

℄ RAMP (HNBRB2)

PROPOSED 24" R.C.P. STORM SEWER

TYPE F CONC. BARRIER

13'-6" MOMENT SLAB

12'

18'

6' SHLD.

(1619) BEG. RETAINING WALL 2A
STA. 49+89.60

(1620)

(1621)

(1624)

(1625) END RETAINING WALL 2A
STA. 53+49.599

(1631) BEG. RETAINING WALL 2B
STA. 50+15.674

(1632)

(1633)

(1634)

(1635)

(1636)

(1637) END RETAINING WALL 2B
STA. 52+15.900

℄ RETAINING WALL 2A

℄ RETAINING WALL 2B

PROPOSED DITCH

℄ T.H. 10 W.B. (H10WB)

10' SHLD.

12'

12'

4' SHLD.

BRIDGE NO. 02567

Ⓐ GEOMEMBRANE LIMITS. SEE SHEET NO. 202 FOR DETAILS AND INSTALLATION.

Ⓑ LAY GEOMEMBRANE WITH 0.5% GRADE TOWARDS OPENING.

Ⓒ SAFETY CABLE SYSTEM, SEE DETAILS ON SHEET 198.

Ⓓ EL. 874.50 ø ℄ SLEEVE, SEE LIGHTING LAYOUT FOR LOCATION. INCLUDED IN PRICE BID FOR OTHER ITEMS.

Ⓔ CONCRETE SPLASH BLOCK. MINIMUM 2'x 2'x 6" MN/DOT (3Y46). INCLUDED IN PRICE BID FOR OTHER ITEMS.

RETAINING WALL 2A PROFILE

FINISHED GROUNDLINE (FUTURE)

FINISHED GROUNDLINE (PROPOSED)

TOP OF RETAINING WALL

END RETAINING WALL 2A
STA. 53+49.599

BRIDGE NO. 02567

PILASTER

TOP OF RETAINING WALE 2B
EL 873.00

4" Ø N.M.C. SLEEVE Ⓓ

BOTTOM OF (2'-0"X1'-6" MIN.) UNREINF. CONCRETE LEVELING PAD

PROPOSED 24" R.C.P. STORM SEWER
INV. EL. 857.96

EXISTING GROUNDLINE

BEG. RETAINING WALL 2A
STA. 49+89.596

EL. 890 EL. 885 EL. 880 EL. 875 EL. 870 EL. 865 EL. 860 EL. 855 EL. 850 EL. 845

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

\\s07lnf09\infrastructure\33889\33889042\struct\pln-sht\042-rw06.dgn
1/8/2007 8:06:46 AM

URS Thrasher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

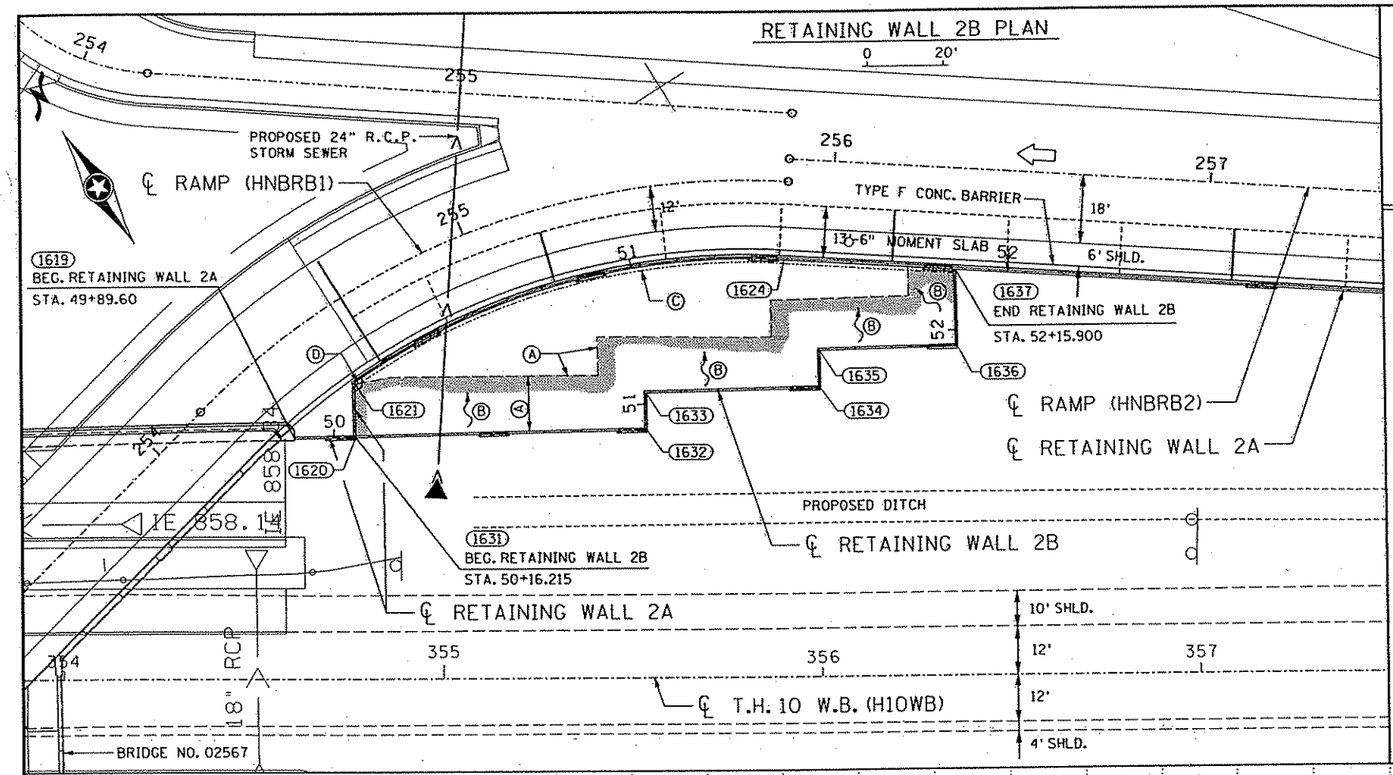
TITLE: PLAN AND PROFILE

DES: WFS	DR: WFS	APPROVED:
CHK: JMF	CHK: JMF	

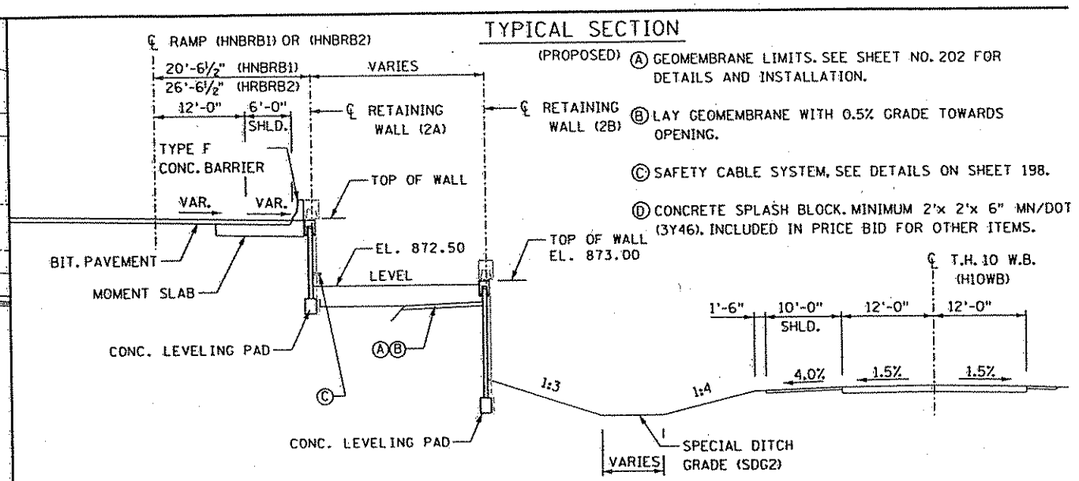
SHEET NO. 188 OF 681 SHEETS

RETAINING WALL 2A

RETAINING WALL 2B PLAN



TYPICAL SECTION



(PROPOSED)

Ⓐ GEOMEMBRANE LIMITS. SEE SHEET NO. 202 FOR DETAILS AND INSTALLATION.

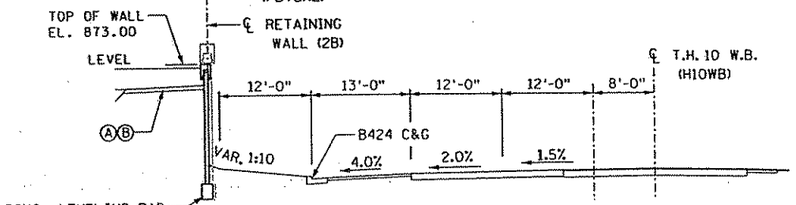
Ⓑ LAY GEOMEMBRANE WITH 0.5% GRADE TOWARDS OPENING.

Ⓒ SAFETY CABLE SYSTEM, SEE DETAILS ON SHEET 198.

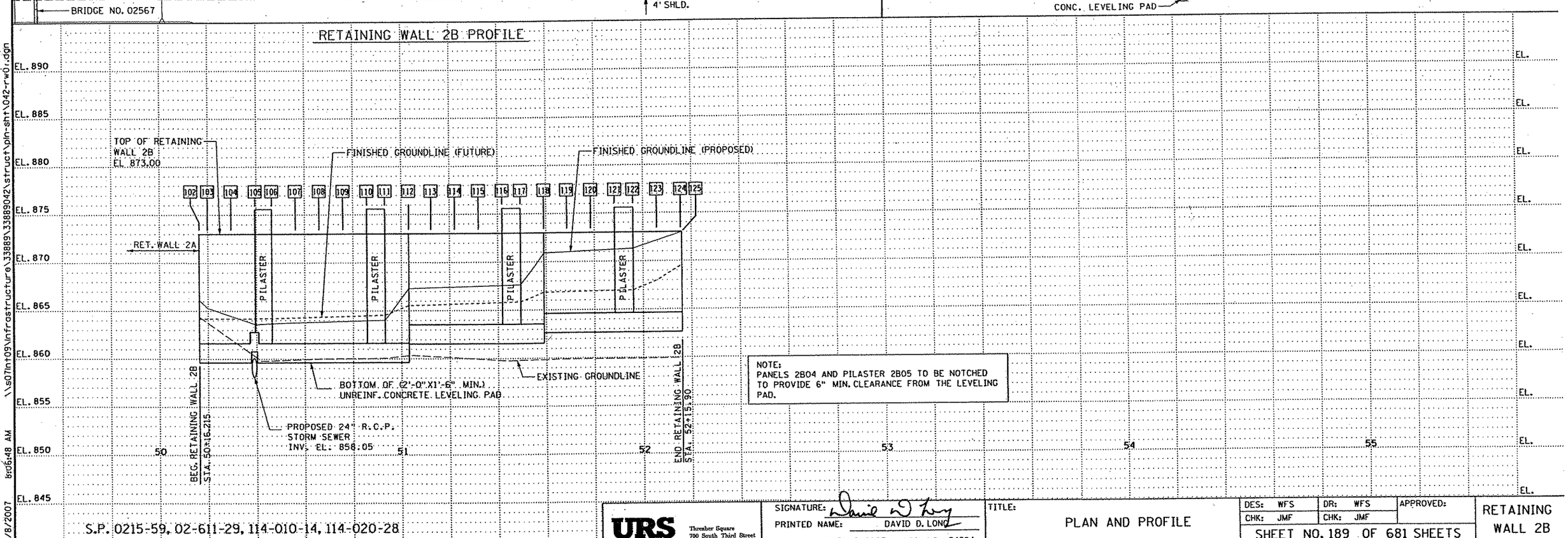
Ⓓ CONCRETE SPLASH BLOCK. MINIMUM 2'x 2'x 6" MN/DOT (3Y46). INCLUDED IN PRICE BID FOR OTHER ITEMS.

TYPICAL SECTION

(FUTURE)



RETAINING WALL 2B PROFILE



NOTE:
PANELS 2B04 AND PILASTER 2B05 TO BE NOTCHED TO PROVIDE 6" MIN. CLEARANCE FROM THE LEVELING PAD.

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: PLAN AND PROFILE

DES: WFS	DR: WFS	APPROVED:
CHK: JMF	CHK: JMF	

SHEET NO. 189 OF 681 SHEETS

RETAINING WALL 2B

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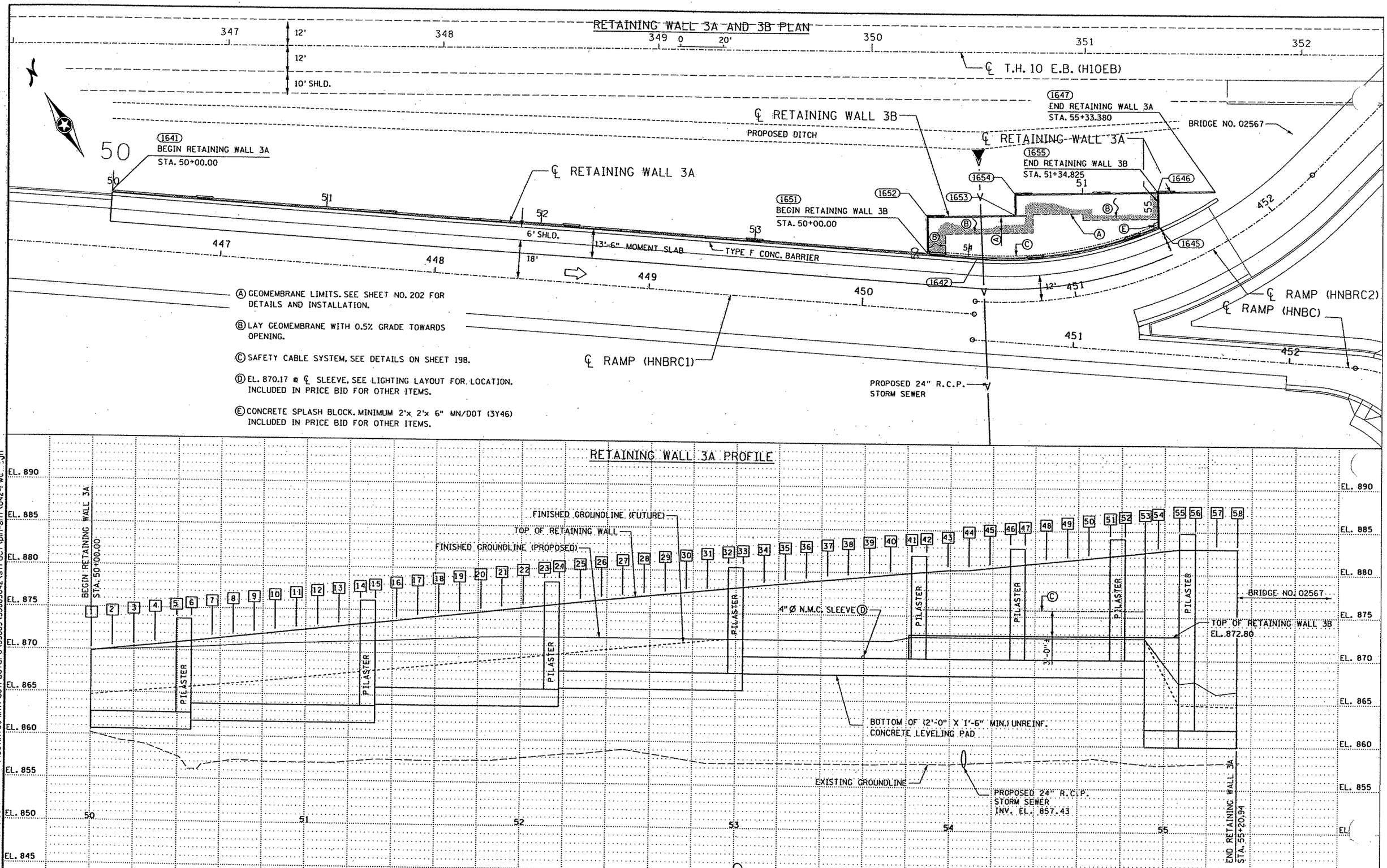
8:06:48 AM
1/8/2007



S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Threshor Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D. Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: PLAN AND PROFILE

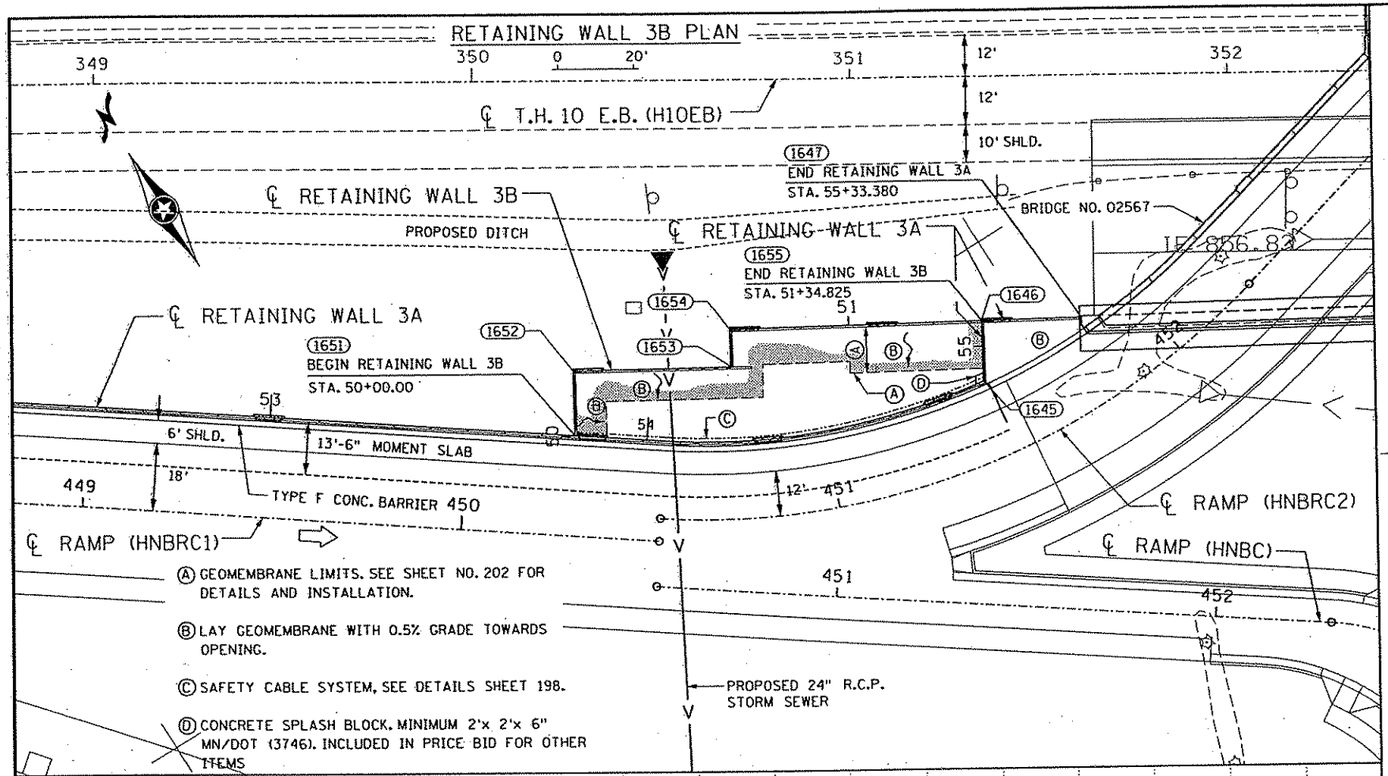
DES: WFS	DR: WFS	APPROVED:
CHK: JMF	CHK: JMF	

SHEET NO. 190 OF 681 SHEETS

RETAINING WALL 3A

1/8/2007 ...:50 AM \\s07int09\infrastructure\33889\33889042\struct\pln-sht\042-rw...

RETAINING WALL 3B PLAN



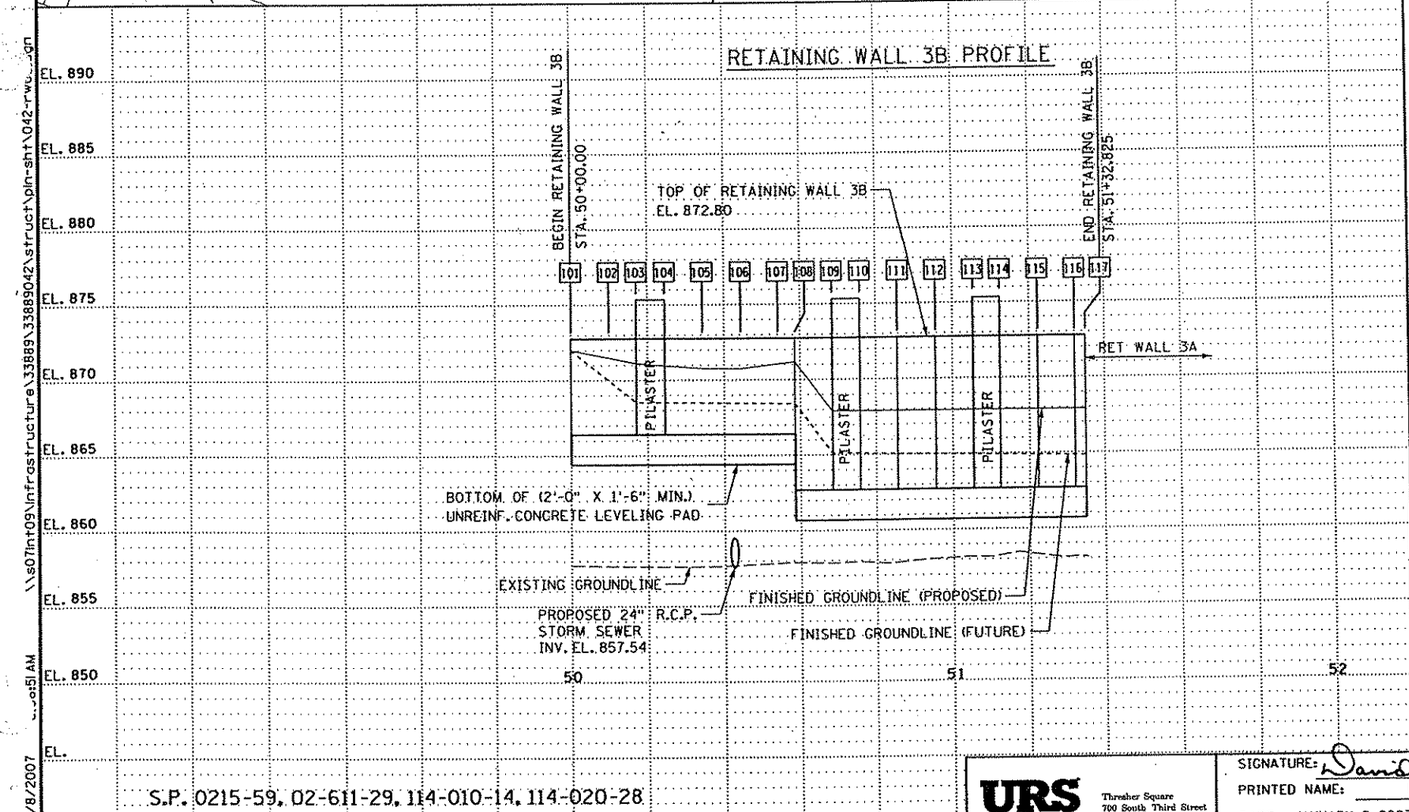
Ⓐ GEOMEMBRANE LIMITS. SEE SHEET NO. 202 FOR DETAILS AND INSTALLATION.

Ⓑ LAY GEOMEMBRANE WITH 0.5% GRADE TOWARDS OPENING.

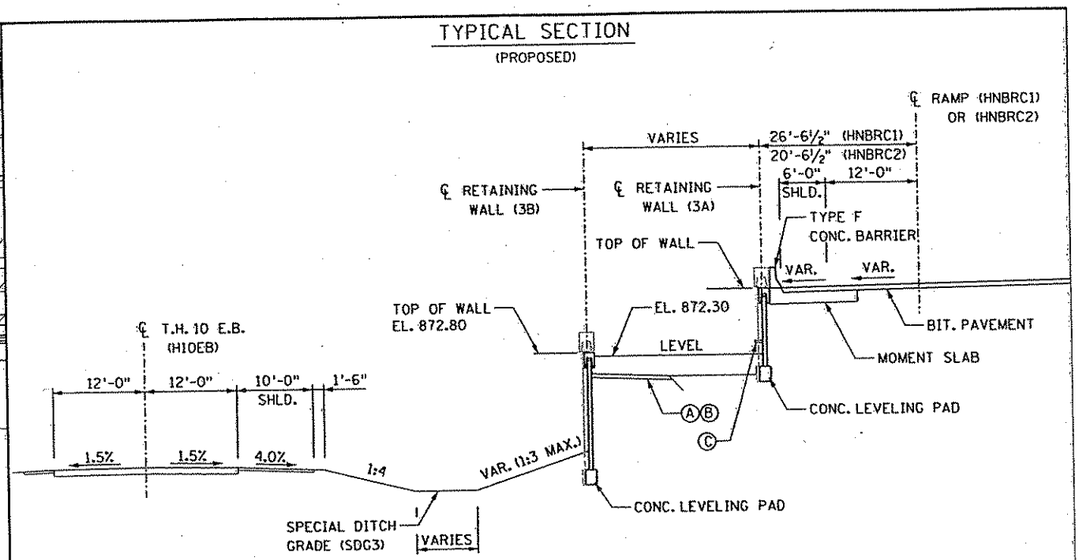
Ⓒ SAFETY CABLE SYSTEM, SEE DETAILS SHEET 198.

Ⓓ CONCRETE SPLASH BLOCK. MINIMUM 2'x 2'x 6" MN/DOT (3746). INCLUDED IN PRICE BID FOR OTHER ITEMS

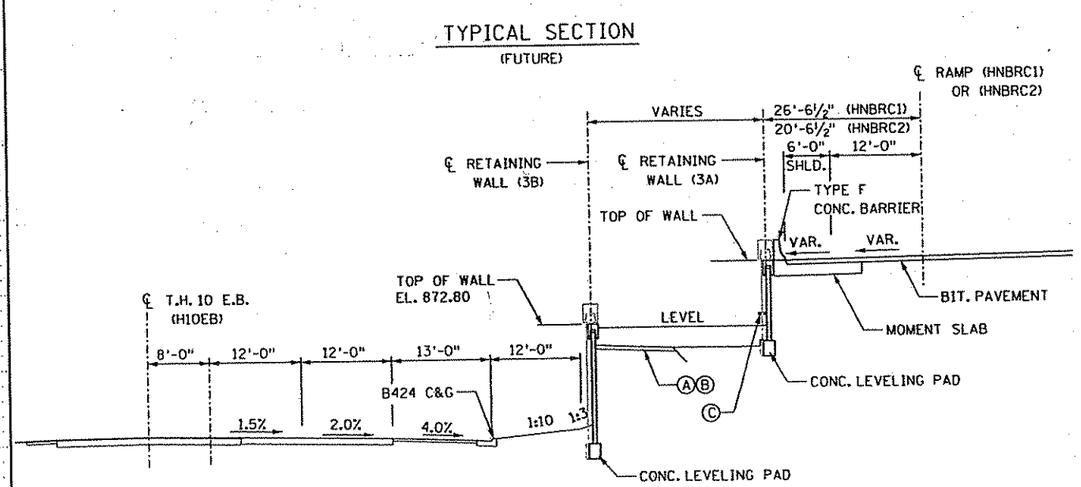
RETAINING WALL 3B PROFILE



TYPICAL SECTION
(PROPOSED)



TYPICAL SECTION
(FUTURE)



S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thrasher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: PLAN AND PROFILE

DES: WFS	DR: WFS	APPROVED:
CHK: JMF	CHK: JMF	

SHEET NO. 191 OF 681 SHEETS

RETAINING WALL 3B

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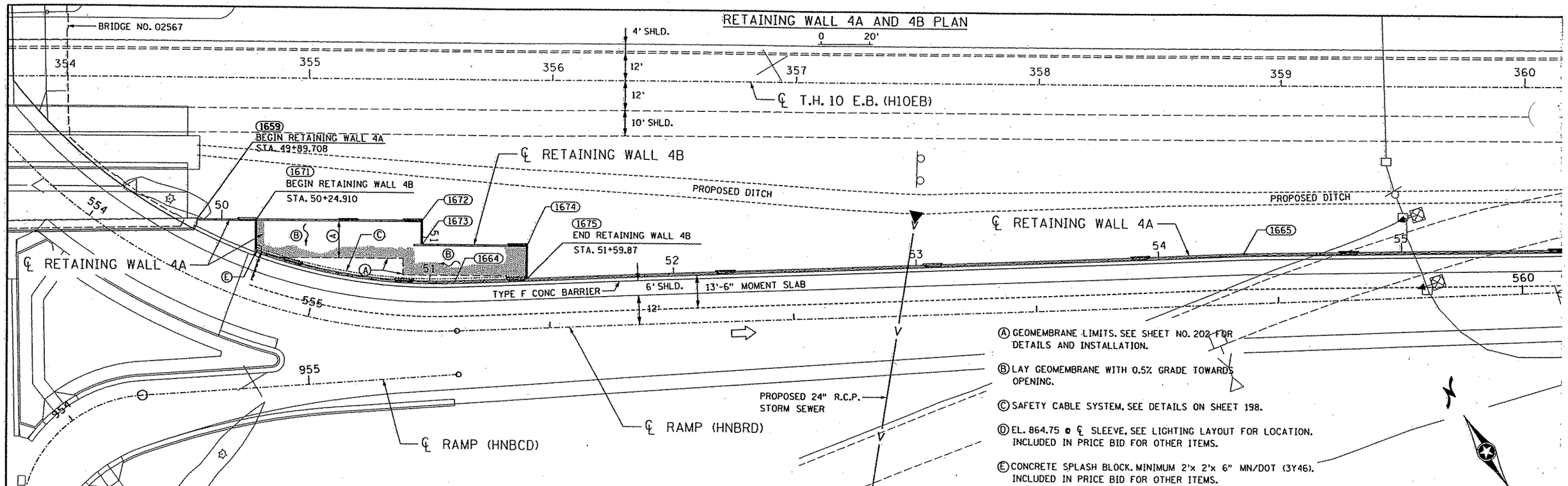
RETAINING WALL 4A AND 4B PLAN



Ⓐ GEOMEMBRANE LIMITS. SEE SHEET NO. 202 FOR DETAILS AND INSTALLATION.

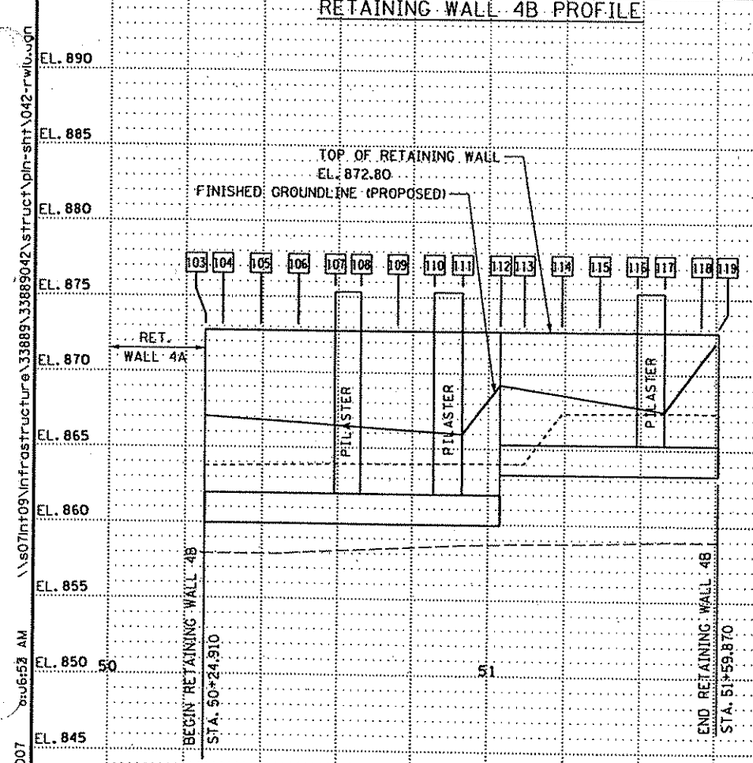
Ⓑ LAY GEOMEMBRANE WITH 0.5% GRADE TOWARDS OPENING.

Ⓒ SAFETY CABLE SYSTEM. SEE DETAILS ON SHEET 198.

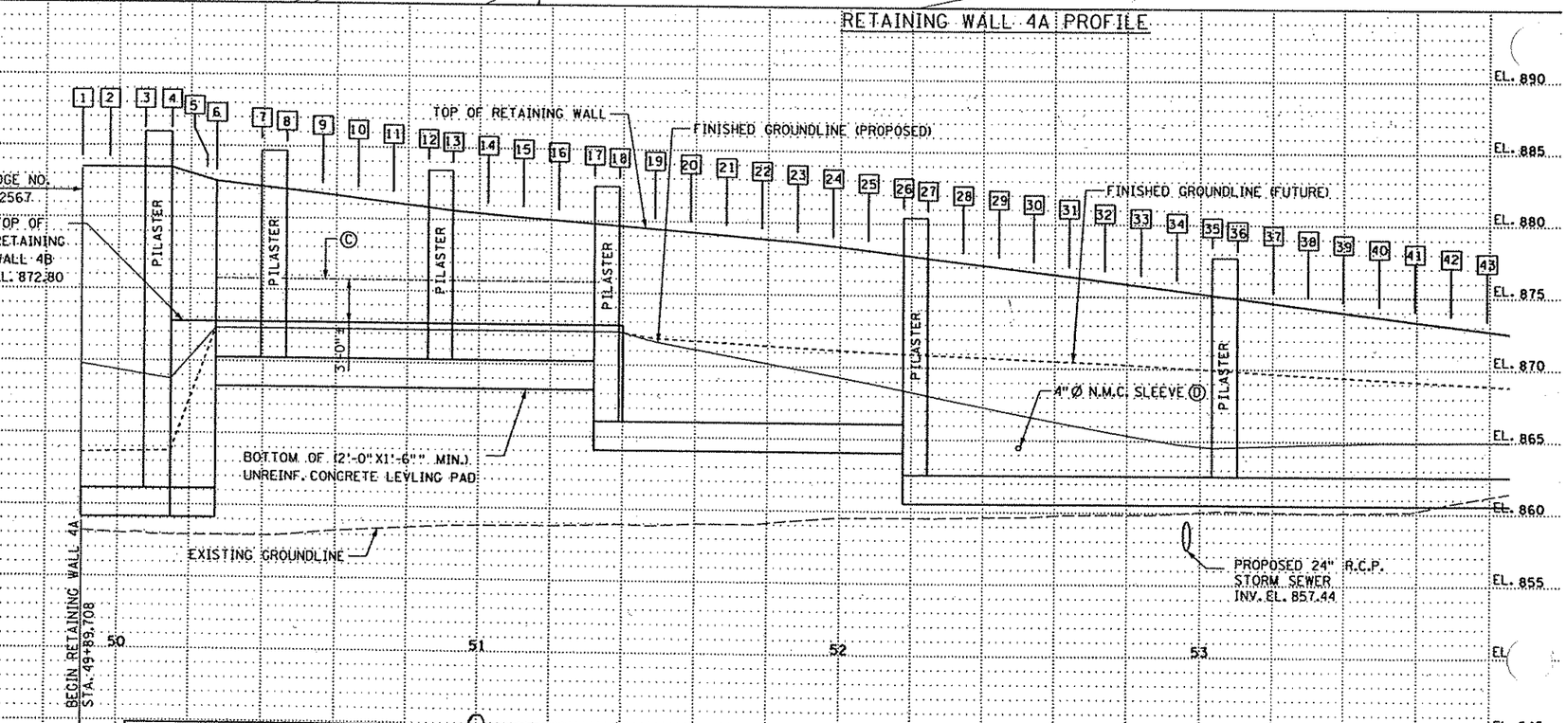
Ⓓ EL. 864.75 @ ℄ SLEEVE, SEE LIGHTING LAYOUT FOR LOCATION. INCLUDED IN PRICE BID FOR OTHER ITEMS.

Ⓔ CONCRETE SPLASH BLOCK. MINIMUM 2'x 2'x 6" MN/DOT (3Y46). INCLUDED IN PRICE BID FOR OTHER ITEMS.

RETAINING WALL 4B PROFILE



RETAINING WALL 4A PROFILE



S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS
Thrasher Square
700 South Third Street
Minneapolis, MN 55415

SIGNATURE: David D. Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: PLAN AND PLOT

DES: WFS	DR: WFS	APPROVED:
CHK: JMF	CHK: JMF	

SHEET NO. 192 OF 681 SHEETS

RETAINING WALL 4A & 4B

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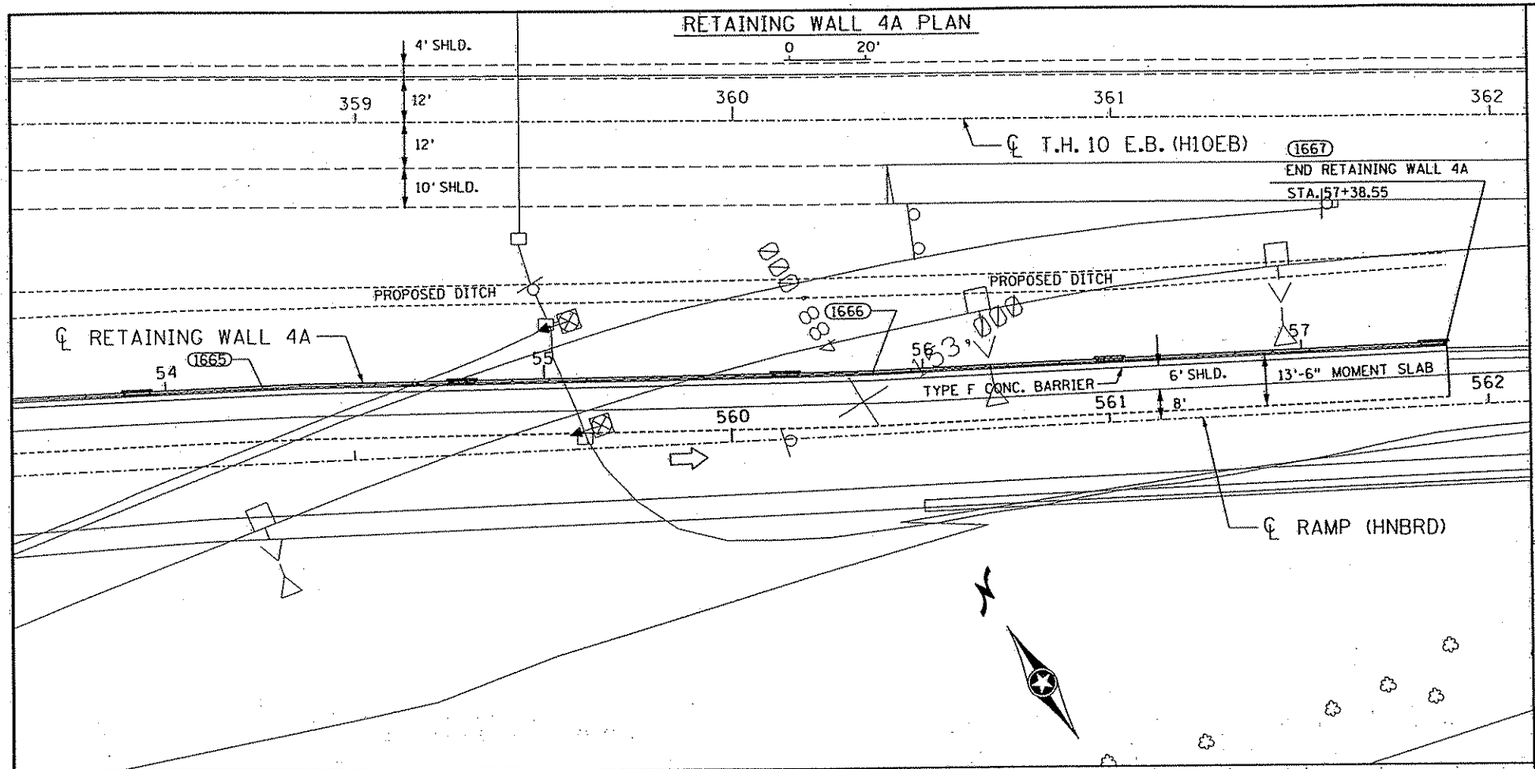
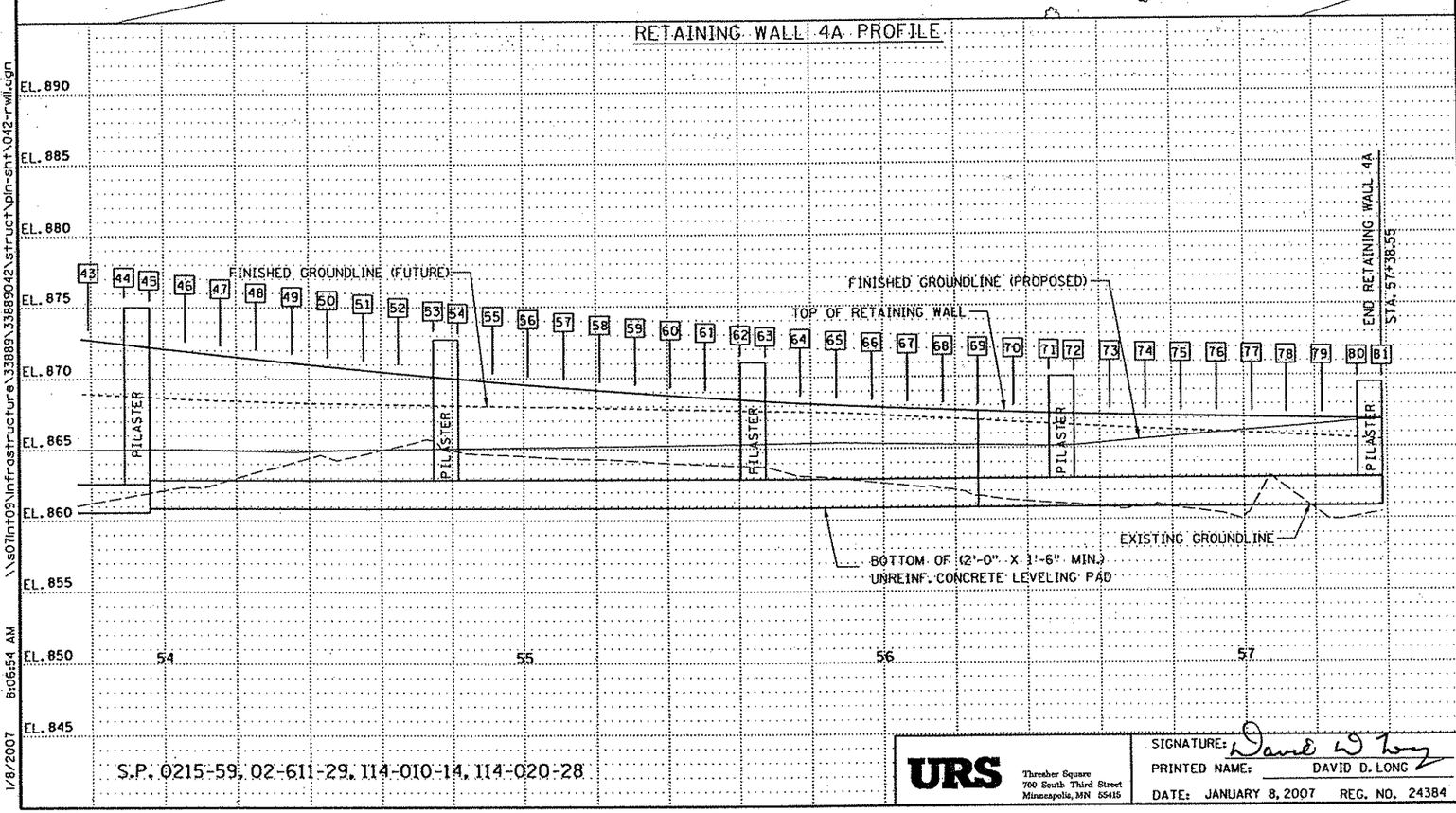
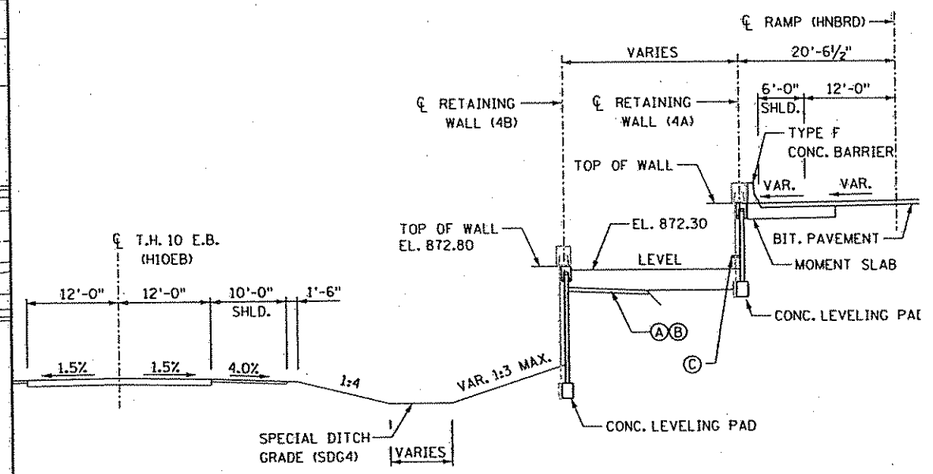
RETAINING WALL 4A PLAN



RETAINING WALL 4A PROFILE



TYPICAL SECTION
(PROPOSED)

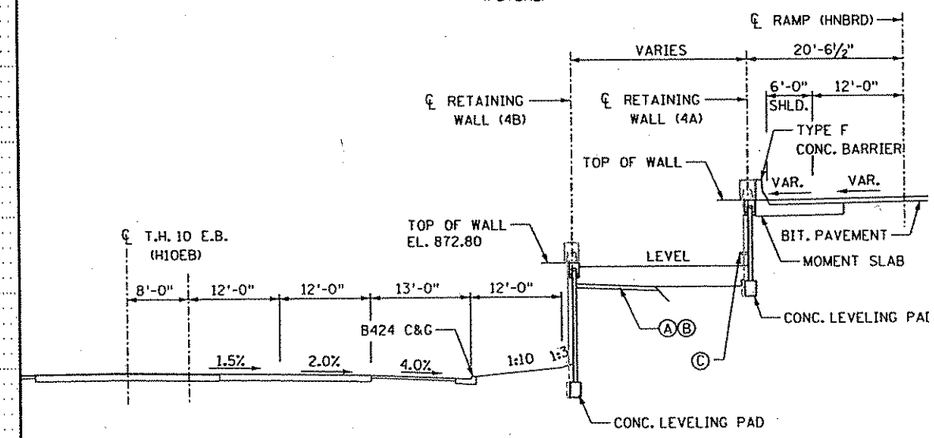


Ⓐ GEOMEMBRANE LIMITS. SEE SHEET NO. 202 FOR DETAILS AND INSTALLATION.

Ⓑ LAY GEOMEMBRANE WITH 0.5% GRADE TOWARDS OPENING.

Ⓒ SAFETY CABLE SYSTEM, SEE DETAILS SHEET 198.

TYPICAL SECTION
(FUTURE)



S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

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PRINTED NAME: DAVID D. LONG
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TITLE: PLAN AND PROFILE

DES: WFS	DR: WFS	APPROVED:
CHK: JMF	CHK: JMF	

SHEET NO. 193 OF 681 SHEETS

RETAINING WALL 4A

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ALIGNMENT TABULATION

POINT NO.	POINT	STATION	CURVE DATA DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES X	Y	AZIMUTH
RETAINING WALL 1A (RW1A)										
1601	A PT. 16.752' RT. RAMP (HNBRA) POT 146+00.914=							486,884.1000	153,921.7203	
	POT	RET. WALL 1A (RW1A) 50+00.000								
										119° 47' 58.58"
1602	PI	51+51.646						487,015.6935	153,846.3572	PI
1603	PC	54+72.781						487,298.2657	153,693.7779	118° 22' 03.04"
1604	PI	55+16.604	22° 35' 08.91" RT	26° 06' 28.14"	219.458'	43.824'	86.510'	487,336.8271	153,672.9561	PI
1605	CC							487,193.9955	153,500.6726	
1606	PT	55+59.290						487,364.4341	153,638.9211	140° 57' 11.95"
										212° 09' 08.20"
1608	PI	55+71.722						487,357.8184	153,628.3962	
										122° 09' 08.20"
1609	POT	RET. WALL 1A (RW1A) 55+97.242=								
	A PT. 22.256' RT. RAMP (HNBRA) POT 151+99.386=							487,379.4252	153,614.8148	
RETAINING WALL 1B (RW1B)										
1611	RET. WALL 1A (RW1A) POT 54+46.935=							487,275.5239	153,706.0577	
	POT	RET. WALL 1B (RW1B) 50+00.000								
										212° 09' 08.20"
1612	POT	50+12.113						487,269.0779	153,695.8028	PI
										122° 09' 08.20"
1613	POT	50+55.511						487,305.8207	153,672.7073	PI
										212° 09' 08.20"
1614	POT	50+65.355						487,300.5822	153,664.3732	PI
										122° 09' 08.20"
1615	POT	RET. WALL 1B (RW1B) 51+32.959=								
	RET. WALL 1A PI 55+71.722							487,357.8184	153,628.3962	
RETAINING WALL 2A (RW2A)										
1619	A PT. 22.376' RT. RAMP (HNBRB1) POC 254+29.463=							487,618.8387	153,473.1442	
	POT	RET. WALL 2A (RW2A) 49+89.596								
										120° 36' 52.22"
1620	PI	50+05.812						487,632.7939	153,464.8864	PI
										30° 36' 52.22"
1622	PC	50+20.340						487,640.1927	153,477.3899	87° 03' 45.80"
1623	PI	50+83.013	38° 30' 06.78" RT	31° 55' 37.44"	179.458'	62.673'	120.593'	487,702.7834	153,480.6015	PI
1624	CC							487,649.3887	153,298.1674	
1625	PT	51+40.934						487,753.7653	153,444.1496	125° 33' 52.58"
1626	POT	RET. WALL 2A (RW2A) 53+49.599=								
	A PT. 26.542' RT. RAMP (HNBRB2) POT 257+96.845							487,923.5064	153,322.7855	
RETAINING WALL 2B (RW2B)										
1631	RET. WALL 2A (RW2A) PI 50+05.812=							487,632.7939	153,464.8864	
	POT	RET. WALL 2B (RW2B) 50+16.215								
										120° 36' 52.22"
1632	PI	50+93.125						487,698.9833	153,425.7194	PI
										30° 36' 52.22"
1633	PI	51+02.969						487,703.9964	153,434.1911	PI
										120° 36' 52.22"
1634	PI	51+49.260						487,743.8356	153,410.6166	PI
										30° 36' 52.22"
1635	PI	51+59.104						487,748.8486	153,419.0883	PI
										120° 36' 52.22"
1636	PI	51+95.740						487,780.3779	153,400.4312	PI
										30° 36' 52.22"
1637	POT	RET. WALL 2B (RW2B) 52+15.900=								
	RET. WALL 2A (RW2A) POT 51+86.270							487,790.6445	153,417.7811	

ALIGNMENT TABULATION

POINT NO.	POINT	STATION	CURVE DATA DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES X	Y	AZIMUTH
RETAINING WALL 3A (RW3A)										
1641	A PT. 26.542' LT. RAMP (HNBRC1) POT 446+47.695=							486,823.1951	153,735.5638	
	POT	RET. WALL 3A (RW3A) 50+00.000								
1642	PC	54+04.700						487,152.4028	153,500.1817	125° 33' 52.58"
1643	PI	54+48.606	27° 29' 42.71" LT	31° 55' 37.44"	179.458'	43.905'	86.119'	487,188.1179	153,474.6455	PI
1644	CC							487,256.7794	153,646.1639	98° 04' 09.86"
1645	PT	54+90.819						487,231.5884	153,468.4825	
										30° 36' 52.22"
1646	PI	55+06.709						487,239.6803	153,482.1571	PI
										120° 36' 52.22"
1647	POT	RET. WALL 3A (RW3A) 55+33.380=								
	A PT. 22.314' LT. RAMP (HNBRC2) POC 451+83.135							487,262.6341	153,468.5745	
RETAINING WALL 3B (RW3B)										
1651	RET. WALL 3A (RW3A) POT 53+80.965=							487,133.0947	153,513.9869	
	POT	RET. WALL 3B (RW3B) 50+00.000								
1652	PI	50+17.043						487,141.7739	153,528.6542	PI
1653	PI	50+58.528						487,177.4765	153,507.5276	PI
1654	PI	50+68.372						487,182.4895	153,515.9992	PI
1655	POT	RET. WALL 3B (RW3B) 51+34.825=								
	RET. WALL 3A (RW3A) PI 55+06.709							487,239.6803	153,482.1571	
RETAINING WALL 4A (RW4A)										
1659	A PT. 22.256' LT. RAMP (HN8RD) POC 554+40.95=							487,514.9173	153,319.2883	
	POT	RET. WALL 4A (RW4A) 49+89.708								
										121° 41' 27.88"
1660	PI	50+14.618						487,536.1132	153,306.2021	PI
										211° 41' 27.88"
1661	PC	50+27.073						487,529.5701	153,295.6042	141° 05' 23.10"
1662	PI	50+69.274	21° 46' 12.19" LT	26° 06' 28.14"	219.458'	42.202'	83.385'	487,556.0769	153,262.7659	PI
1663	CC							487,700.3373	153,433.4464	
1664	PT	51+10.458						487,592.8725	153,242.1005	119° 19' 10.90"
1665	PI	54+35.258						487,876.0661	153,083.0516	PI
										120° 46' 06.45"
1666	PI	55+86.904						488,006.3891	153,005.5121	PI
										119° 19' 10.90"
1667	POT	RET. WALL 4A (RW4A) 57+38.550=								
	A PT. 16.572' LT. RAMP (HNBRD) POC 561+89.869							488,138.6093	152,931.2538	
RETAINING WALL 4B (RW4B)										
1671	RET. WALL 4A (RW4A) PI 50+14.618=							487,536.1132	153,306.2021	
	POT	RET. WALL 4B (RW4B) 50+24.910								
1672	PI	50+93.125						487,594.1567	153,270.3661	PI
1673	PI	51+02.969						487,588.9854	153,261.9901	PI
1674	PI	51+46.209						487,625.7785	153,239.2742	PI
1675	POT	RET. WALL 4B (RW4B) 51+59.870=								
	RET. WALL 4A (RW4A) POT 51+39.968							487,618.6018	153,227.6502	

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thrasher Square 700 South Third Street Minneapolis, MN 55415

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DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: ALIGNMENT TABULATIONS

DES: WFS	DR: WFS	APPROVED:
CHK: JMF	CHK: JMF	

SHEET NO. 194 OF 681 SHEETS

RETAINING WALLS

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WALL NO. 1A TABULATION

JOINT NO.	STATION	X	Y	FINISHED GROUND ELEV. PROP.	FINISHED GROUND ELEV. FUT.	TOP OF WALL ELEV.	DESIGN WALL HEIGHT	BOTTOM OF FTG. SLAB. ELEV. (1)	PANEL LENGTH FT.	PANEL AREA SQ. YD. (2)	REMARKS
1	50+00.000	486,884.100	153,921.720	865.132	861.725	865.132	5.732	857.4	9.844	6.4	
2	50+09.844	486,892.642	153,916.828	865.176	861.840	865.390	5.990	857.4	9.843	6.7	
3	50+19.687	486,901.184	153,911.936	865.212	861.954	865.653	6.253	857.4	6.917	6.9	PILASTER
4	50+26.604	486,907.186	153,908.499	865.239	862.034	865.843	6.443	857.4	9.844	7.2	
5	50+36.448	486,915.728	153,903.607	865.275	862.149	866.115	6.715	857.4	9.844	7.5	
6	50+46.292	486,924.270	153,898.715	865.296	862.273	866.395	6.995	857.4	9.843	7.8	
7	50+56.135	486,932.813	153,893.823	865.324	862.394	866.681	7.281	857.4	9.844	8.1	
8	50+65.979	486,941.355	153,888.931	865.353	862.514	866.974	7.574	857.4	9.844	8.4	
9	50+75.823	486,949.897	153,884.039	865.381	862.635	867.272	7.872	857.4	9.844	8.8	
10	50+85.667	486,958.439	153,879.147	865.408	862.757	867.576	8.176	857.4	9.843	9.1	
11	50+95.510	486,966.981	153,874.255	865.434	862.877	867.886	8.486	857.4	9.844	9.5	
12	51+05.354	486,975.523	153,869.363	865.420	863.018	868.203	8.803	857.4	6.917	8.9	PILASTER
13	51+12.271	486,981.525	153,865.925	865.400	863.116	868.428	7.828	858.6	9.844	8.7	
14	51+22.115	486,990.067	153,861.033	865.372	863.257	868.755	8.155	858.6	9.843	9.1	
15	51+31.958	486,998.609	153,856.141	865.345	863.398	869.088	8.488	858.6	9.844	9.5	
16	51+41.802	487,007.151	153,851.249	865.317	863.538	869.427	8.827	858.6	9.844	9.8	
17	51+51.646	487,015.693	153,846.357	865.304	863.667	869.772	9.172	858.6	9.844	10.2	
18	51+61.490	487,024.355	153,841.680	865.376	863.875	870.118	9.518	858.6	9.843	10.6	
19	51+71.333	487,033.017	153,837.003	865.450	864.082	870.470	9.870	858.6	9.844	11.0	
20	51+81.177	487,041.679	153,832.326	865.522	864.290	870.829	10.229	858.6	9.844	11.4	
21	51+91.021	487,050.340	153,827.649	865.594	864.498	871.193	10.593	858.6	6.917	10.3	PILASTER
22	51+97.938	487,056.426	153,824.363	865.646	864.643	871.453	9.653	859.8	9.843	10.8	
23	52+07.781	487,065.088	153,819.686	865.734	864.856	871.828	10.028	859.8	9.844	11.2	
24	52+17.625	487,073.750	153,815.009	865.830	865.069	872.208	10.408	859.8	9.844	11.6	
25	52+27.469	487,082.411	153,810.332	865.742	865.283	872.590	10.790	859.8	9.844	12.0	
26	52+37.313	487,091.073	153,805.655	865.772	865.495	872.972	11.172	859.8	9.843	12.4	
27	52+47.156	487,099.735	153,800.978	865.803	865.707	873.354	11.554	859.8	9.844	12.8	
28	52+57.000	487,108.397	153,796.301	865.819	865.932	873.736	11.936	859.8	9.844	13.3	
29	52+66.844	487,117.058	153,791.624	865.834	866.156	874.118	12.318	859.8	9.844	13.7	
30	52+76.688	487,125.720	153,786.947	865.848	866.381	874.500	12.700	859.8	6.916	11.9	PILASTER
31	52+83.604	487,131.806	153,783.660	865.858	866.539	874.768	10.868	861.9	9.844	12.1	
32	52+93.448	487,140.468	153,778.983	865.872	866.763	875.150	11.250	861.9	9.844	12.5	
33	53+03.292	487,149.129	153,774.306	865.890	866.985	875.531	11.631	861.9	9.843	12.9	
34	53+13.135	487,157.791	153,769.629	865.909	867.210	875.908	12.008	861.9	9.844	13.3	
35	53+22.979	487,166.453	153,764.952	866.002	867.435	876.279	12.379	861.9	9.844	13.7	
36	53+32.823	487,175.114	153,760.275	866.053	867.659	876.644	12.744	861.9	9.844	14.1	
37	53+42.667	487,183.776	153,755.598	866.102	867.884	877.003	13.103	861.9	9.843	14.5	
38	53+52.510	487,192.438	153,750.921	866.146	868.115	877.357	13.457	861.9	9.844	14.9	
39	53+62.354	487,201.100	153,746.244	866.182	868.349	877.705	13.805	861.9	6.917	12.8	PILASTER
40	53+69.271	487,207.186	153,742.958	866.207	868.515	877.946	14.046	861.9	9.844	15.5	
41	53+79.115	487,215.847	153,738.281	866.245	868.750	878.284	14.384	861.9	9.843	15.9	
42	53+88.958	487,224.509	153,733.604	866.280	868.986	878.616	14.716	861.9	9.844	16.3	
43	53+98.802	487,233.171	153,728.927	866.327	869.213	879.029	15.129	861.9	9.844	16.7	
44	54+08.646	487,241.832	153,724.250	866.800	869.411	879.236	15.336	861.9	9.844	16.9	
45	54+18.490	487,250.494	153,719.573	867.356	869.599	879.444	15.544	861.9	9.843	17.1	
46	54+28.333	487,259.156	153,714.896	868.007	869.789	879.651	15.751	861.9	9.844	17.3	
47	54+38.177	487,267.818	153,710.219	868.596	869.979	879.858	15.958	861.9	9.844	17.6	
48	54+48.021	487,276.479	153,705.542	869.173	870.179	880.053	16.153	861.9	6.917	14.5	PILASTER (4)
49	54+54.938	487,282.565	153,702.256	872.500	872.500	880.186	9.686	868.5	9.843	10.7	
50	54+64.781	487,291.227	153,697.579	872.500	872.500	880.376	9.876	868.5	9.844	10.9	
51	54+74.625	487,299.885	153,692.895	872.500	872.500	880.582	10.082	868.5	9.845	11.2	
52	54+84.470	487,308.398	153,687.953	872.500	872.500	880.858	10.358	868.5	9.844	11.5	
53	54+94.314	487,316.682	153,682.634	872.500	872.500	881.141	10.641	868.5	6.917	10.3	PILASTER
54	55+01.231	487,322.355	153,678.678	872.500	872.500	881.341	10.841	868.5	9.845	12.0	
55	55+11.076	487,330.208	153,672.743	872.500	872.500	881.626	11.126	868.5	9.844	12.3	
56	55+20.920	487,337.787	153,666.461	872.500	872.500	881.911	11.411	868.5	9.845	12.6	
57	55+30.765	487,345.077	153,659.846	872.500	872.500	882.196	11.696	868.5	9.844	13.0	
58	55+40.609	487,352.063	153,652.911	872.500	872.500	882.485	11.985	868.5	6.917	11.3	PILASTER
59	55+47.526	487,356.782	153,647.854	872.500	872.500	882.693	12.193	868.5	9.845	13.5	
60	55+57.371	487,363.219	153,640.406	872.500	872.500	882.989	12.489	868.5	1.919	2.7	
61	55+59.290	487,364.434	153,638.921	872.500	872.500	883.047	22.647	858.4	2.588	6.5	
62	55+61.878	487,363.057	153,636.730	871.175	870.509	883.228	22.828	858.4	9.844	25.3	
63	55+71.722	487,357.818	153,628.396	866.135	862.937	883.920	23.520	858.4	7.458	21.7	PILASTER
64	55+79.180	487,364.133	153,624.427	866.453	862.945	883.920	23.520	858.4	9.844	25.7	
65	55+89.024	487,372.467	153,619.189	866.874	862.955	883.920	23.520	858.4	8.218	21.5	(3)
66	55+97.242	487,379.425	153,614.815	867.226	862.965	883.920	881.920				

WALL NO. 1B TABULATION

JOINT NO.	STATION	X	Y	FINISHED GROUND ELEV. PROP.	FINISHED GROUND ELEV. FUT.	TOP OF WALL ELEV.	DESIGN WALL HEIGHT	BOTTOM OF FTG. SLAB. ELEV. (1)	PANEL LENGTH FT.	PANEL AREA SQ. YD. (2)	REMARKS
101	50+00.000	487,275.52	153,706.06	869.115	870.151	873.000	10.500	860.5	2.269	2.6	(7)
102	50+02.269	487,274.32	153,704.14	868.359	869.403	873.000	10.500	860.5	9.844	11.5	
103	50+12.113	487,269.08	153,695.80	865.076	866.155	873.000	10.500	860.5	7.458	10.9	PILASTER
104	50+19.571	487,275.39	153,691.83	865.304	866.177	873.000	10.500	860.5	9.844	11.5	
105	50+29.415	487,283.73	153,686.60	865.601	866.209	873.000	10.500	860.5	9.843	11.5	
106	50+39.258	487,292.06	153,681.36	865.905	866.236	873.000	10.500	860.5	9.844	11.5	
107	50+49.102	487,300.40	153,676.12	866.213	866.261	873.000	10.500	860.5	6.409	7.5	
108	50+55.511	487,305.82	153,672.71	866.412	866.278	873.000	12.900	858.1	9.844	14.1	
109	50+65.355	487,300.58	153,664.37	863.128	862.616	873.000	12.900	858.1	7.458	12.9	PILASTER
110	50+72.813	487,306.90	153,660.40	863.361	862.647	873.000	12.900	858.1	9.844	14.1	
111	50+82.657	487,315.23	153,655.17	863.790	862.646	873.000	12.900	858.1	9.844	14.1	
112	50+92.501	487,323.57	153,649.93	864.255	862.639	873.000	12.900	858.1	9.843	14.1	
113	51+02.344	487,331.90	153,644.69	864.719	862.632	873.000	12.900	858.1	6.917	9.9	PILASTER
114	51+09.261	487,337.76	153,641.01	865.046	862.627	873.000	12.900	858.1	9.844	17.0	
115	51+19.105	487,346.09	153,635.77	865.511	862.620	873.000	12.900	858.1	9.844	14.1	
116	51+28.949	487,354.42	153,630.53	865.965	862.622	873.000	12.900	858.1	4.010	5.7	(7)
117	51+32.959	487,357.82	153,628.40	866.110	862.652	873.000	12.900				

WALL NO. 2A TABULATION

JOINT NO.	STATION	X	Y	FINISHED GROUND ELEV. PROP.	FINISHED GROUND ELEV. FUT.	TOP OF WALL ELEV.	DESIGN WALL HEIGHT	BOTTOM OF FTG. SLAB. ELEV. (1)	PANEL LENGTH FT.	PANEL AREA SQ. YD. (2)	REMARKS
1	49+89.596	487,618.84	153,473.14	868.555	864.423	883.700	23.777	859.9	8.757	21.2	
2	49+98.353	487,626.38	153,468.69	868.611	864.475	883.700	23.725	859.9	7.459	20.3	PILASTER
3	50+05.812	487,632.79	153,464.89	868.627	864.488	883.700	23.712	859.9	9.843	23.6	
4	50+15.655	487,637.81	153,473.36	871.251	869.922	883.246	17.824	859.9	4.685	11.1	
5	50+20.340	487,640.19	153,477.39	872.500	872.500	883.042	15.042	868.5	9.194	12.7	
6	50+29.534	487,649.38	153,477.63	872.500	872.500	882.789	14.789	868.5	9.845	13.3	
7	50+39.379	487,659.22	153,477.36	872.500	872.500	882.570	14.570	868.5	6.918	11.3	PILASTER
8	50+46.297	487,666.12	153,476.84	872.500	872.500	882.416	14.416	868.5	9.845	12.9	
9	50+56.142	487,675.89	153,475.66	872.500	872.500	882.196	14.196	868.5	9.845	12.7	
10	50+65.987	487,685.59	153,473.94	872.500	872.500	881.963	13.963	868.5	9.845	12.4	
11	50+75.832	487,695.17	153,471.69	872.500	872.500	881.711	13.711	868.5	9.844	12.1	
12	50+85.676	487,704.61	153,468.92	872.500	872.500	881.458	13.458	868.5	6.918	10.4	PILASTER
13	50+92.594	487,711.15	153,466.66	872.500	872.500	881.281	13.281	868.5	9.845	11.7	
14	51+02.439	487,720.30	153,463.02	872.500	872.500	881.028	13.028	868.5	9.845	11.4	
15	51+12.284	487,729.23	153,458.89	872.500	872.500	880.783	12.783	868.5	9.845	11.2	
16	51+22.129	487,737.92	153,454.27	872.500	872.500	880.662	12.662	868.5	9.845	11.0	
17	51+31.974	487,746.35	153,449.18	872.500	872.500	880.540	12.540	868.5	6.917	9.7	PILASTER
18	51+38.891	487,752.10	153,445.33	872.500	872.500	880.455	12.455	868.5	9.843	10.8	
19	51+48.734	487,760.11	153,439.61	872.500	872.500	880.321	12.321	868.5	9.844	10.7	
20	51+58.578	487,768.12	153,433.89	872.500	872.500	880.183	12.183	865.6	9.844	13.7	
21	51+68.422	487,776.13	153,428.16	872.500	872.500	880.045	12.045	865.6	9.844	13.5	
22	51+78.266	487,784.13	153,422.44	872.500	872.500	879.907	11.907	865.6	6.916	11.5	PILASTER (5)
23	51+85.182	487,789.76	153,418.41	870.251	869.568	879.810	14.742	865.6	9.844	13.3	
24	51+95.026	487,797.77	153,412.69	871.444	870.201	879.638	13.937	865.6	9.844	13.1	
25	52+04.870	487,805.78	153,406.96	872.926	871.009	879.447	12.938	865.6	9.844	12.9	
26	52+14.714	487,813.78	153,401.24	874.825	872.080	879.255	11.675	865.6	9.843	12.6	
27	52+24.557	487,821.79	153,395.51	877.345	873.573	879.064	9.991	865.6	9.844	12.4	
28	52+34.401	487,829.80	153,389.79	877.169	875.800	878.872	7.572	865.6	9.844	12.2	
29	52+44.245	487,837.81	153,384.06	876.981	879.507	878.681	6.200	865.6	9.844	12.0	
30	52+54.089	487,845.81	153,378.34	876.828	879.293	878.490	6.162	871.2	9.843	5.7	
31	52+63.932	487,853.82	153,372.61	876.673	(6)	878.262	6.089	871.2	6.917	5.9	PILASTER
32	52+70.849	487,859.45	153,368.59	876.566		878.053	5.987	871.2	9.844	5.1	
33	52+80.693	487,867.45	153,362.86	876.411		877.746	5.835	871.2	9.843	4.8	
34	52+90.536	487,875.46	153,357.14	876.258		877.429	5.671	871.2	9.844	4.4	
35	53+00.380	487,883.47	153,351.41	876.103		877.103	5.500	871.2	9.844	4.1	
36	53+10.224	487,891.48	153,345.69	875.951		876.767	5.316	871.2	9.844	3.7	
37	53+20.068	487,899.48	153,339.96	875.797		876.423	5.126	871.2	9.843	3.3	
38	53+29.911	487,907.49	153,334.24	875.644		876.079	4.935	871.2	9.844	3.0	
39	53+39.755	487,915.50	153,328.51	875.489		875.735	4.746	871.2	9.844	2.6	
40	53+49.599	487,923.51	153,322.79	875.390	(6)	875.390	4.500				

(1) PROVIDE 4'-0" MINIMUM COVER FROM FINISHED GROUND PROPOSED AND FINISHED GROUND FUTURE TO BOTTOM OF LEVELING SLAB.

(2) PANEL AREA IS MEASURED FROM THE TOP OF THE LEVELING SLAB TO THE TOP OF WALL. THE LEVELING SLAB IS ASSUMED TO BE 2'-0" THICK.

(3) CONNECT TO BRIDGE NO. 02567 ABUTMENT. SEE WALL CONNECTION TO ABUTMENT DETAIL.

(4) CONNECT WALL 1A (JOINT NO. 48) TO WALL 1B (JOINT NO. 101) SEE RETAINING WALL CONNECTION DETAIL.

(5) CONNECT WALL 2A (JOINT NO. 23) TO WALL 2B (JOINT NO. 125) SEE RETAINING WALL CONNECTION DETAIL.

(6) WALL 2A PANELS 2A30 THRU 2A39 ARE NOT NECESSARY FOR THE FUTURE DESIGN SECTION. THEY MAY BE BURIED OR REMOVED IN THE FUTURE.

(7) CONNECT TO WALL 1A. SEE RETAINING WALL CONNECTION DETAILS.

WALL NO. 2B TABULATION

JOINT NO.	STATION	X	Y	FINISHED GROUND ELEV. PROP.	FINISHED GROUND ELEV. FUT.	TOP OF WALL ELEV.	DESIGN WALL HEIGHT	BOTTOM OF FTG. SLAB. ELEV. (1)	PANEL LENGTH FT.	PANEL AREA SQ. YD. (2)	REMARKS
102	50+16.215	487,632.79	153,464.89	866.150	864.176	873.000	11.400				
103	50+19.687	487,635.78	153,463.12	865.307	864.192	873.000	11.400	859.6	3.472	4.4	(6)
104	50+29.531	487,644.25	153,458.11	864.464	864.199	873.000	11.400	859.6	9.844	12.5	
105	50+39.375	487,652.73	153,453.09	863.622	864.208	873.000	11.400	859.6	9.844	12.5	
106	50+49.219	487,661.20	153,448.08	863.707	864.244	873.000	11.400	859.6	9.844	12.5	
107	50+56.135	487,667.15	153,444.56	863.774	864.299	873.000	11.400	859.6	6.916	10.8	PILASTER
108	50+65.979	487,675.62	153,439.54	863.841	864.367	873.000	11.400	859.6	9.844	12.5	
109	50+75.823	487,684.09	153,434.53	863.911	864.436	873.000	11.400	859.6	9.844	12.5	
110	50+85.667	487,692.57	153,429.52	863.981	864.504	873.000	11.400	859.6	9.844	12.5	
111	50+93.125	487,698.98	153,425.72	864.032	864.556	873.000	11.400	859.6	7.458	11.7	PILASTER
112	51+02.969	487,704.00	153,434.19	867.313	865.540	873.000	9.400	859.6	9.844	12.5	
113	51+12.271	487,712.00	153,429.45	867.378	865.605	873.000	9.400	861.6	9.302	9.7	
114	51+22.115	487,720.47	153,424.44	867.448	865.673	873.000	9.400	861.6	9.844	10.3	
115	51+31.958	487,728.95	153,419.43	867.515	865.742	873.000	9.400	861.6	9.843	10.3	
116	51+41.802	487,737.42	153,414.42	867.585	865.810	873.000	9.400	861.6	9.844	10.3	
117	51+49.260	487,743.84	153,410.62	867.637	865.863	873.000	9.400	861.6	7.458	10.0	PILASTER
118	51+59.104	487,748.85	153,419.09	870.917	866.846	873.000	8.400	861.6	9.844	10.3	
119	51+68.594	487,757.02	153,414.26	871.020	866.884	873.000	8.400	862.6	9.490	8.9	
120	51+78.438	487,765.49	153,409.24	871.127	866.923	873.000	8.400	862.6	9.844	9.2	
121	51+88.282	487,773.96	153,404.23	871.233	866.962	873.000	8.400	862.6	9.844	9.2	
122	51+95.740	487,780.38	153,400.43	871.314	866.992	873.000	8.400	862.6	7.458	9.2	PILASTER
123	52+05.584	487,785.39	153,408.90	872.132	867.975	873.000	8.400	862.6	9.844	9.2	
124	52+15.428	487,790.40	153,417.37	872.950	869.510	873.000	8.400	862.6	9.844	9.2	
125	52+15.900	487,790.65	153,417.78	873.000	869.562	873.000	8.400	862.6	0.472	0.4	(4)

WALL NO. 3B TABULATION

JOINT NO.	STATION	X	Y	FINISHED GROUND ELEV. PROP.	FINISHED GROUND ELEV. FUT.	TOP OF WALL ELEV.	DESIGN WALL HEIGHT	BOTTOM OF FTG. SLAB. ELEV. (1)	PANEL LENGTH FT.	PANEL AREA SQ. YD. (2)	REMARKS
101	50+00.000	487,133.10	153,513.99	872.000	872.000	872.800	6.400	864.4	9.844	7.0	(5)
102	50+09.844	487,138.11	153,522.46	871.500	869.997	872.800	6.400	864.4	7.199	5.1	
103	50+17.043	487,141.77	153,528.65	871.120	868.533	872.800	6.400	864.4	7.458	7.5	PILASTER
104	50+24.501	487,148.19	153,524.86	870.971	868.518	872.800	6.400	864.4	9.844	7.0	
105	50+34.345	487,156.66	153,519.84	870.779	868.498	872.800	6.400	864.4	9.844	7.0	
106	50+44.189	487,165.14	153,514.83	870.743	868.474	872.800	6.400	864.4	9.843	7.0	
107	50+54.032	487,173.61	153,509.82	871.049	868.428	872.800	6.400	864.4	4.496	3.2	
108	50+58.528	487,177.48	153,507.53	871.186	868.408	872.800	10.100	860.7	9.844	11.0	
109	50+68.372	487,182.49	153,516.00	867.899	865.126	872.800	10.100	860.7	7.458	10.6	PILASTER
110	50+75.830	487,188.91	153,512.20	867.899	865.095	872.800	10.100	860.7	9.844	11.0	
111	50+85.674	487,197.38	153,507.19	867.899	865.052	872.800	10.100	860.7	9.843	11.0	
112	50+95.517	487,205.85	153,502.18	867.899	865.010	872.800	10.100	860.7	9.844	11.0	
113	51+05.361	487,214.32	153,497.16	867.899	864.968	872.800	10.100	860.7	6.917	9.8	PILASTER
114	51+12.278	487,220.28	153,493.64	867.899	864.937	872.800	10.100	860.7	9.844	14.0	
115	51+22.122	487,228.75	153,488.63	867.899	864.896	872.800	10.100	860.7	9.843	11.0	
116	51+31.965	487,237.22	153,483.61	867.899	864.851	872.800	10.100	860.7	2.860	3.2	(7)
117	51+34.825	487,239.68	153,482.16	867.899	864.834	872.800	870.800				

WALL NO. 3A TABULATION

JOINT NO.	STATION	X	Y	FINISHED GROUND ELEV. PROP.	FINISHED GROUND ELEV. FUT.	TOP OF WALL ELEV.	DESIGN WALL HEIGHT	BOTTOM OF FTG. SLAB. ELEV. (1)	PANEL LENGTH FT.	PANEL AREA SQ. YD. (2)	REMARKS
1	50+00.000	486,823.20	153,735.56	869.857	864.703	869.857	7.157				
2	50+09.844	486,831.20	153,729.84	870.029	864.932	870.128	7.428	860.7	9.844	8.0	
3	50+19.688	486,839.21	153,724.11	870.118	865.171	870.400	7.700	860.7	9.844	8.3	
4	50+29.532	486,847.22	153,718.39	870.232	865.391	870.672	7.972	860.7	9.844	8.6	
5	50+39.376	486,855.23	153,712.66	870.347	865.611	870.943	8.243	860.7	9.844	8.9	
6	50+46.293	486,860.85	153,708.64	870.427	865.766	871.134	7.434	860.7	6.917	8.5	PILASTER
7	50+56.137	486,868.86	153,702.91	870.549	865.986	871.406	7.706	861.7	9.844	8.3	
8	50+65.981	486,876.87	153,697.19	870.697	866.206	871.677	7.977	861.7	9.844	8.6	
9	50+75.825	486,884.88	153,691.46	870.842	866.427	871.949	8.249	861.7	9.844	8.9	
10	50+85.669	486,892.88	153,685.74	870.952	866.676	872.220	8.520	861.7	9.844	9.2	
11	50+95.513	486,900.89	153,680.01	871.043	866.938	872.492	8.792	861.7	9.844	9.5	
12	51+05.357	486,908.90	153,674.29	871.133	867.201	872.764	9.064	861.7	9.844	9.8	
13	51+15.201	486,916.91	153,668.56	871.224	867.463	873.035	9.335	861.7	9.844	10.1	
14	51+25.045	486,924.91	153,662.84	871.315	867.726	873.307	9.607	861.7	9.844	10.4	
15	51+31.962	486,930.54	153,658.81	871.378	867.910	873.498	7.598	861.7	6.917	9.5	PILASTER
16	51+41.806	486,938.55	153,653.09	871.478	868.166	873.769	7.869	863.9	9.844	8.5	
17	51+51.650	486,946.56	153,647.36	871.597	868.408	874.041	8.141	863.9	9.844	8.8	
18	51+61.494	486,954.56	153,641.64	871.715	868.649	874.313	8.413	863.9	9.844	9.1	
19	51+71.338	486,962.57	153,635.91	871.833	868.891	874.584	8.684	863.9	9.844	9.4	
20	51+81.182	486,970.58	153,630.18	871.951	869.133	874.856	8.956	863.9	9.844	9.6	
21	51+91.026	486,978.59	153,624.46	872.000	869.374	875.127	9.227	863.9	9.844	9.9	
22	52+00.870	486,986.59	153,618.73	872.000	869.616	875.399	9.499	863.9	9.844	10.2	
23	52+10.714	486,994.60	153,613.01	872.000	869.867	875.670	9.770	863.9	9.844	10.5	
24	52+17.631	487,000.23	153,608.99	872.000	870.052	875.860	7.860	863.9	6.917	9.6	PILASTER
25	52+27.475	487,008.24	153,603.26	872.000	870.307	876.127	8.127	866.0	9.844	8.7	
26	52+37.319	487,016.24	153,597.53	872.000	870.561	876.391	8.391	866.0	9.844	9.0	
27	52+47.163	487,024.25	153,591.81	872.000	870.815	876.545	8.545	866.0	9.844	9.3	
28	52+57.007	487,032.26	153,586.08	872.000	871.069	876.769	8.769	866.0	9.844	9.5	
29	52+66.851	487,040.27	153,580.36	872.000	871.323	876.993	8.993	866.0	9.844	9.7	
30	52+76.695	487,048.28	153,574.63	872.000	871.573	877.217	9.217	866.0	9.844	10.0	
31	52+86.539	487,056.28	153,568.91	872.000	871.814	877.441	9.441	866.0	9.844	10.2	
32	52+96.383	487,064.29	153,563.18	872.000	872.000	877.665	9.665	866.0	9.844	10.4	
33	53+03.300	487,069.92	153,559.16	872.000	872.000	877.819	7.819	866.0	6.917	9.5	PILASTER
34	53+13.144	487,077.93	153,553.43	872.000	872.000	878.011	8.011	868.0	9.844	8.7	
35	53+22.988	487,085.93	153,547.71	872.000	872.000	878.203	8.203	868.0	9.844	8.9	
36	53+32.832	487,093.94	153,541.98	872.000	872.000	878.394	8.394	868.0	9.844	9.1	
37	53+42.676	487,101.95	153,536.26	872.000	872.000	878.582	8.582	868.0	9.844	9.3	
38	53+52.520	487,109.96	153,530.53	872.000	872.000	878.758	8.758	868.0	9.844	9.5	
39	53+62.364	487,117.96	153,524.81	872.000	872.000	878.934	8.934	868.0	9.844	9.7	
40	53+72.208	487,125.97	153,519.08	872.000	872.000	879.110	9.110	868.0	9.844	9.9	
41	53+82.052	487,133.98	153,513.35	872.500	872.500	879.285	9.285	868.0	9.844	10.1	
42	53+88.969	487,139.61	153,509.33	872.500	872.500	879.409	9.409	868.0	6.917	9.2	PILASTER
43	53+98.813	487,147.61	153,503.61	872.500	872.500	879.585	9.585	868.0	9.844	10.4	
44	54+08.657	487,155.65	153,497.92	872.500	872.500	879.775	9.775	868.0	9.844	10.6	
45	54+18.502	487,163.93	153,492.59	872.500	872.500	879.987	9.987	868.0	9.845	10.8	
46	54+28.347	487,172.49	153,487.73	872.500	872.500	880.199	10.199	868.0	9.845	11.0	
47	54+35.264	487,178.66	153,484.60	872.500	872.500	880.361	10.361	868.0	6.917	10.0	
48	54+45.109	487,187.63	153,480.56	872.500	872.500	880.632	10.632	868.0	9.845	11.5	
49	54+54.954	487,196.82	153,477.02	872.500	872.500	880.903	10.903	868.0	9.845	11.8	
50	54+64.799	487,206.18	153,473.99	872.500	872.500	881.174	11.174	868.0	9.845	12.1	
51	54+74.644	487,215.70	153,471.47	872.500	872.500	881.445	11.445	868.0	9.845	12.4	
52	54+81.561	487,222.46	153,470.02	872.500	872.500	881.635	11.635	868.0	6.917	10.9	PILASTER
53	54+90.819	487,231.59	153,468.48	872.500	872.500	881.890	19.990	868.0	9.258	12.1	
54	54+96.865	487,234.67	153,473.69	870.520	869.583	882.683	20.783	859.9	6.046	13.7	
55	55+06.709	487,239.68	153,482.16	867.297	864.834	882.960	21.060	859.9	9.844	22.9	
56	55+14.167	487,246.10	153,478.36	867.543	864.793	882.960	21.060	859.9	7.458	19.7	PILASTER
57	55+24.011	487,254.57	153,473.35	866.101	864.737	882.960	21.060	859.9	9.844	23.0	
58	55+33.380	487,262.63	153,468.57	866.414	864.685	882.960	21.060	859.9	9.369	21.9	(3)

(1) PROVIDE 4'-0" MINIMUM COVER FROM FINISHED GROUND PROPOSED AND FINISHED GROUND FUTURE TO BOTTOM OF LEVELING SLAB.

(2) PANEL AREA IS MEASURED FROM THE TOP OF THE LEVELING SLAB TO THE TOP OF WALL. THE LEVELING SLAB IS ASSUMED TO BE 2'-0" THICK.

(3) CONNECT TO BRIDGE NO. 02567 ABUTMENT. SEE WALL CONNECTION TO ABUTMENT DETAIL.

(4) CONNECT WALL 2A (JOINT NO. 21) TO WALL 2B (JOINT NO. 125). SEE RETAINING WALL CONNECTION DETAIL.

(5) CONNECT WALL 3B (JOINT NO. 101) TO WALL 3A (JOINT NO. 41). SEE RETAINING WALL CONNECTION DETAIL.

(6) CONNECT TO WALL 2A. SEE RETAINING WALL CONNECTION DETAIL.

(7) CONNECT TO WALL 3A. SEE RETAINING WALL CONNECTION DETAIL.

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S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: WALL 2B, 3A AND 3B

DES: WFS	DR: WFS	APPROVED:
CHK: JMF	CHK: JMF	

SHEET NO. 196 OF 681 SHEETS

WALL TABULATIONS

WALL NO. 4A TABULATION

JOINT NO.	STATION	X	Y	FINISHED GROUND ELEV. PROP.	FINISHED GROUND ELEV. FUT.	TOP OF WALL ELEV.	DESIGN WALL HEIGHT	BOTTOM OF FTG. SLAB. ELEV. (1)	PANEL LENGTH FT.	PANEL AREA SQ. YD. (2)	REMARKS
1	49+89.708	487,514.92	153,319.29	869.780	863.641	883.480	13.700	851.1	7.608	25.7	(3)
2	49+97.316	487,521.39	153,315.29	869.467	863.676	883.480	14.013	851.1	9.844	33.2	
3	50+07.160	487,529.77	153,310.12	869.056	863.722	883.480	14.424	851.1	7.458	27.4	PILASTER
4	50+14.618	487,536.11	153,306.20	868.745	863.758	883.480	14.735	851.1	9.844	32.8	
5	50+24.462	487,530.94	153,297.83	871.555	870.509	882.747	11.192	851.1	2.611	9.3	
6	50+27.073	487,529.57	153,295.60	872.300	872.300	882.552	10.252	868.3	12.305	16.5	
7	50+39.378	487,537.56	153,286.25	872.300	872.300	882.208	9.908	868.3	6.917	11.1	PILASTER
8	50+46.295	487,542.28	153,281.19	872.300	872.300	882.014	9.714	868.3	9.844	12.7	
9	50+56.139	487,549.27	153,274.26	872.300	872.300	881.734	9.434	868.3	9.845	12.3	
10	50+65.984	487,556.56	153,267.65	872.300	872.300	881.440	9.140	868.3	9.845	14.9	
11	50+75.829	487,564.14	153,261.37	872.300	872.300	881.145	8.845	868.3	9.844	11.7	
12	50+85.673	487,571.99	153,255.43	872.300	872.300	880.851	8.551	868.3	6.917	10.1	PILASTER
13	50+92.590	487,577.67	153,251.47	872.300	872.300	880.644	8.344	868.3	9.845	11.2	
14	51+02.435	487,585.95	153,246.16	872.300	872.300	880.414	8.114	868.3	9.844	10.9	
15	51+12.279	487,594.46	153,241.21	872.300	872.300	880.208	7.908	864.1	9.844	18.2	
16	51+22.123	487,603.04	153,236.39	872.300	872.300	880.018	7.718	864.1	9.844	15.1	
17	51+31.967	487,611.63	153,231.57	872.300	872.300	879.827	7.527	864.1	6.916	12.5	PILASTER
18	51+38.883	487,617.66	153,228.18	872.300	872.300	879.693	7.393	864.1	9.844	14.8	
19	51+48.727	487,626.24	153,223.36	871.648	871.869	879.493	7.845	864.1	9.844	14.5	
20	51+58.571	487,634.82	153,218.54	871.192	871.731	879.288	8.096	864.1	9.844	14.3	
21	51+68.415	487,643.41	153,213.72	870.740	871.594	879.083	8.343	864.1	9.843	14.1	
22	51+78.258	487,651.99	153,208.90	870.289	871.455	878.878	8.589	864.1	9.844	13.9	
23	51+88.102	487,660.57	153,204.08	869.837	871.318	878.673	8.836	864.1	9.844	13.6	
24	51+97.946	487,669.15	153,199.26	869.384	871.181	878.403	9.019	860.5	9.844	20.2	
25	52+07.790	487,677.74	153,194.44	868.914	871.058	878.112	9.198	860.5	9.843	16.9	
26	52+17.633	487,686.32	153,189.62	868.416	870.955	877.819	9.403	860.5	6.917	13.7	PILASTER
27	52+24.550	487,692.35	153,186.23	868.068	870.882	877.610	9.542	860.5	9.844	16.4	
28	52+34.394	487,700.93	153,181.41	867.569	870.780	877.311	9.742	860.5	9.843	16.0	
29	52+44.237	487,709.52	153,176.59	867.072	870.677	877.009	9.937	860.5	9.844	15.7	
30	52+54.081	487,718.10	153,171.77	866.585	870.573	876.704	10.119	860.5	9.844	15.4	
31	52+63.925	487,726.68	153,166.95	866.114	870.471	876.395	10.281	860.5	9.844	15.0	
32	52+73.769	487,735.26	153,162.13	865.643	870.369	876.083	10.440	860.5	9.843	14.7	
33	52+83.612	487,743.85	153,157.31	865.222	870.228	875.769	10.547	860.5	9.844	17.3	
34	52+93.456	487,752.43	153,152.49	864.802	870.088	875.454	10.652	860.5	9.844	14.0	
35	53+03.300	487,761.01	153,147.67	864.549	869.947	875.139	10.590	860.5	6.917	11.7	PILASTER
36	53+10.217	487,767.04	153,144.28	864.612	869.848	874.917	10.305	860.5	9.843	13.4	
37	53+20.060	487,775.63	153,139.46	864.707	869.707	874.602	9.895	860.5	9.844	13.1	
38	53+29.904	487,784.21	153,134.64	864.798	869.566	874.287	9.489	860.5	9.844	12.7	
39	53+39.748	487,792.79	153,129.82	864.852	869.456	873.973	9.121	860.5	9.844	12.4	
40	53+49.592	487,801.37	153,125.00	864.938	869.321	873.658	8.720	860.5	9.843	12.0	
41	53+59.435	487,809.96	153,120.18	864.952	869.187	873.343	8.391	860.5	9.844	11.7	
42	53+69.279	487,818.54	153,115.36	864.962	869.053	873.028	8.066	860.5	9.844	14.3	
43	53+79.123	487,827.12	153,110.54	864.973	868.918	872.715	7.742	860.9	9.844	10.6	
44	53+88.967	487,835.70	153,105.72	864.984	868.784	872.411	7.427	860.9	6.916	9.3	PILASTER
45	53+95.883	487,841.74	153,102.33	864.990	868.691	872.203	7.213	860.9	9.844	10.0	
46	54+05.727	487,850.32	153,097.51	865.008	868.550	871.913	6.905	860.9	9.844	9.7	
47	54+15.571	487,858.90	153,092.69	864.951	868.467	871.631	6.680	860.9	9.844	9.4	
48	54+25.415	487,867.48	153,087.87	864.894	868.384	871.359	6.465	860.9	9.843	9.1	
49	54+35.258	487,876.07	153,083.05	864.839	868.299	871.094	6.255	860.9	9.844	8.8	
50	54+45.102	487,884.53	153,078.02	864.921	868.255	870.833	5.912	860.9	9.844	8.5	
51	54+54.946	487,892.99	153,072.99	864.979	868.205	870.581	5.602	860.9	9.844	11.2	
52	54+64.790	487,901.45	153,067.95	865.003	868.155	870.337	5.334	860.9	9.843	8.0	
53	54+74.633	487,909.91	153,062.92	865.026	868.106	870.101	5.075	860.9	6.917	7.5	PILASTER
54	54+81.550	487,915.85	153,059.38	865.043	868.072	869.941	4.898	860.9	9.844	7.6	
55	54+91.394	487,924.31	153,054.35	865.068	868.022	869.720	4.652	860.9	9.843	7.3	
56	55+01.237	487,932.77	153,049.32	865.092	867.973	869.507	4.415	860.9	9.844	7.1	
57	55+11.081	487,941.23	153,044.28	865.114	867.925	869.303	4.189	860.9	9.844	6.9	
58	55+20.925	487,949.69	153,039.25	865.150	867.868	869.107	3.957	860.9	9.844	6.7	
59	55+30.769	487,958.15	153,034.22	865.184	867.811	868.919	3.736	860.9	9.843	6.5	
60	55+40.612	487,966.61	153,029.18	865.218	867.754	868.740	3.523	860.9	9.844	9.2	
61	55+50.456	487,975.07	153,024.15	865.254	867.696	868.569	3.316	860.9	9.844	6.1	
62	55+60.300	487,983.53	153,019.12	865.288	867.639	868.408	3.120	860.9	6.917	6.2	PILASTER
63	55+67.217	487,989.47	153,015.58	865.313	867.599	868.299	2.986	860.9	9.843	5.8	
64	55+77.060	487,997.93	153,010.55	865.346	867.542	868.151	2.805	860.9	9.844	5.7	
65	55+86.904	488,006.39	153,005.51	865.380	867.485	868.011	2.631	860.9	9.844	5.5	
66	55+96.748	488,014.97	153,000.69	865.334	867.345	867.885	2.551	860.9	9.844	5.4	
67	56+06.592	488,023.56	152,995.87	865.286	867.206	867.768	2.482	860.9	9.843	5.3	
68	56+16.435	488,032.14	152,991.05	865.238	867.067	867.659	2.421	860.9	9.844	5.2	
69	56+26.279	488,040.72	152,986.23	865.192	866.928	867.558	2.366	860.9	9.844	8.0	
70	56+36.123	488,049.30	152,981.41	865.144	866.789	867.466	2.322	860.9	9.844	4.9	
71	56+45.967	488,057.89	152,976.59	865.098	866.649	867.382	2.284	860.9	6.916	5.5	PILASTER
72	56+52.883	488,063.92	152,973.20	865.134	866.552	867.328	2.194				

WALL NO. 4A TABULATION (CONTINUED)

JOINT NO.	STATION	X	Y	FINISHED GROUND ELEV. PROP.	FINISHED GROUND ELEV. FUT.	TOP OF WALL ELEV.	DESIGN WALL HEIGHT	BOTTOM OF FTG. SLAB. ELEV. (1)	PANEL LENGTH FT.	PANEL AREA SQ. YD. (2)	REMARKS
73	56+62.727	488,072.50	152,968.38	865.359	866.413	867.258	1.899	860.9	9.844	4.7	
74	56+72.571	488,081.08	152,963.56	865.568	866.283	867.197	1.629	860.9	9.844	4.7	
75	56+82.415	488,089.67	152,958.74	865.765	866.165	867.145	1.380	860.9	9.843	4.6	
76	56+92.258	488,098.25	152,953.92	865.963	866.047	867.096	1.134	860.9	9.844	4.6	
77	57+02.102	488,106.83	152,949.10	866.157	865.929	867.046	0.889	860.9	9.844	4.5	
78	57+11.946	488,115.41	152,944.28	866.354	865.811	866.997	0.643	860.9	9.844	7.4	
79	57+21.790	488,124.00	152,939.46	866.551	865.692	866.948	0.397	860.9	9.843	7.3	
80	57+31.633	488,132.58	152,934.64	866.757	865.566	866.899	0.142	860.9	6.917	5.1	PILASTER
81	57+38.550	488,138.61	152,931.25	866.864	865.454	866.864	0.000				

WALL NO. 4B TABULATION

JOINT NO.	STATION	X	Y	FINISHED GROUND ELEV. PROP.	FINISHED GROUND ELEV. FUT.	TOP OF WALL ELEV.	DESIGN WALL HEIGHT	BOTTOM OF FTG. SLAB. ELEV. (1)	PANEL LENGTH FT.	PANEL AREA SQ. YD. (2)	REMARKS
103	50+24.910	487,536.11	153,306.20	867.061	863.758	872.800	10.900	859.9	9.843	11.9	(4)
104	50+29.531	487,540.05	153,303.77	866.987	869.637	872.800	10.900	859.9	9.844	11.9	
105	50+39.375	487,548.42	153,298.60	866.830	869.682	872.800	10.900	859.9	6.917	10.4	PILASTER
106	50+49.219	487,556.80	153,293.43	866.673	869.729	872.800	10.900	859.9	9.843	11.9	
107	50+59.062	487,565.17	153,288.26	866.516	869.774	872.800	10.900	859.9	9.844	11.9	
108	50+65.979	487,571.06	153,284.63	866.405	869.797	872.800	10.900	859.9	9.844	11.9	
109	50+75.823	487,579.44	153,279.46	866.248	866.543	872.800	10.900	859.9	9.844	11.9	
110	50+85.667	487,587.81	153,274.28	866.091	866.528	872.800	10.900	859.9	7.458	11.2	PILASTER
111	50+93.125	487,594.16	153,270.37	868.443	866.490	872.800	10.900	859.9	9.844	11.9	
112	51+02.969	487,588.99	153,261.99	868.378	866.425	872.800	7.500	863.3	6.251	5.2	
113	51+09.220	487,594.30	153,258.71	868.066	866.382	872.800	7.500	863.3	9.843	8.2	
114	51+19.063	487,602.68	153,253.54	867.630	866.371	872.800	7.500	863.3	9.844	8.2	
115	51+28.907	487,611.06	153,248.36	867.175	866.341	872.800	7.500	863.3	9.844	8.2	
116	51+38.751	487,619.43	153,243.19	866.720	866.311	872.800	7.500	863.3	7.458	8.4	PILASTER
117	51+46.209	487,625.78	153,239.27	866.407	866.318	872.800	7.500	863.3	9.844	8.2	
118	51+56.053	487,620.61	153,230.90	866.295	866.206	872.800	7.500	863.3	3.817	3.2	(4)
119	51+59.870	487,618.60	153,227.85	866.230	866.141	872.800	7.500				

(1) PROVIDE 4'-6" MINIMUM COVER FROM FINISHED GROUND PROPOSED AND FINISHED GROUND FUTURE TO BOTTOM OF LEVELING SLAB.

(2) PANEL AREA IS MEASURED FROM THE TOP OF THE LEVELING SLAB TO THE TOP OF WALL. THE LEVELING SLAB IS ASSUMED TO BE 2'-0" THICK.

(3) CONNECT TO BRIDGE NO. 02567 ABUTMENT. SEE WALL CONNECTION TO ABUTMENT DETAIL.

(4) CONNECT WALL WALL 4B TO WALL 4A. SEE WALL CONNECTION DETAILS.

SUMMARY OF QUANTITIES ~ M.S.E. WALLS

ITEM	M.S.E. WALL									
	WALL 1A	WALL 1B	WALL 2A	WALL 2B	WALL 3A	WALL 3B	WALL 4A	4B	TOTAL	UNITS
MECHANICAL STABILIZED EARTH WALL	797.3	183.1	420.2	230.2	607.1	136.6	912.2	154.7	3441.5	SQ. YD.

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S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS
Thresher Square
700 South Third Street
Minneapolis, MN 55415

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: WALL 4A AND 4B

DES: WFS	DR: WFS	APPROVED:
CHK: JMF	CHK: JMF	

SHEET NO. 197 OF 681 SHEETS

WALL TABULATIONS

M.S.E. WALL NOTES:

CONTRACTOR SHALL SUPPLY DESIGN COMPUTATIONS, SUBMITTALS, MATERIALS, LABOR, CONSTRUCTION MEASURMENT AND OTHER SERVICES NECESSARY FOR CONSTRUCTION OF THE PRECAST MECHANICALLY STABILIZED EARTH WALL (MSE) IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF MNDOT 3149.2B2, 3126, 3137 AND SHALL CONFORM WITH THE LINES, GRADES, STANDARDS, DESIGN, ARCHITECTURAL DETAILS AND DIMENSIONS SHOWN ON THE PLANS. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

SEE SHEET 202 FOR SECTIONS THROUGH MSE WALL 1B, 2B, 3B & 4B.

1. MINIMUM 4" THERMOPLASTIC PERFORATED PIPE (OR AS REQUIRED BY CONTRACTOR'S DESIGN) SPEC. 3245, WRAP WITH TYPE 1 GEOTEXTILE, SPEC. 3733 (TYP.) INSTALLATION AS PER SPEC. 2502, WITH PRECAST HEAD WALL WITH RODENT SCREEN AT OUTLET. CONNECT TO BR. 02567 DRAINAGE SYSTEM.
2. DRAIN MAY BE DISCHARGED INTO T.H. 10 DITCH AT A SPACING REQUIRED BY CONTRACTOR'S DESIGN. THE SPACING OF DISCHARGE PIPES SHALL NOT EXCEED 200' AND SHALL BE SUBMITTED TO MnDOT FOR APPROVAL AND COORDINATION WITH FUTURE HIGHWAY WIDENING.
3. PAID AS BID ITEM 2502 "DRAINAGE SYSTEM".
4. PAY LIMITS OF EXCAVATION. ACTUAL LIMITS OF EXCAVATION DETERMINED BY OSHA REGULATIONS AND IN-SITU SOILS. EXCAVATION BEYOND LIMITS OF EXCAVATION AT CONTRACTOR'S EXPENCE.
5. THE ELEVATION AT THE BOTTOM OF THE LEVELING PAD SHALL BE CONTROLLED BY THE LOWER OF THE PROPOSED FINISHED GROUND LINE OR THE FUTURE FINISHED GROUND LINE. SEE TABULATIONS FOR ELEVATIONS.
6. TOP OF THE PRECAST COPING SHALL BE LEVEL WITH THE THE TOP OF THE BITUMINOUS PAVEMENT AT THE GUTTERLINE.
7. SEE MOMENT SLAB PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
8. SEE PLAN AND PROFILE AND TABULATIONS FOR TOP OF WALL ELEVATIONS.
9. SEE SPECIAL PROVISIONS FOR SPECIAL SURFACE FINISH.
10. LIMITS OF ARCHITECTURAL CONCRETE TEXTURE, TYPICAL M.S.E. WALL PANELS. CONSIDERED INCIDENTAL, SEE SPECIAL PROVISIONS. PILASTERS NOT INCLUDED.
11. SEE DETAIL A, SHEET 202 FOR OPTIONAL CONCRETE LEVELING PAD.

SAFETY CABLE NOTES:

STEEL SHALL CONFORM TO MNDOT SPEC. 3309.

TUBE SHALL CONFORM TO ASTM A500 GRADE B.

ALL STEEL SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SPEC. 3394.

ALL HARDWARE SHALL BE PER SPEC. 3391 AND BE GALVANIZED IN ACCORDANCE WITH SPEC. 3392.

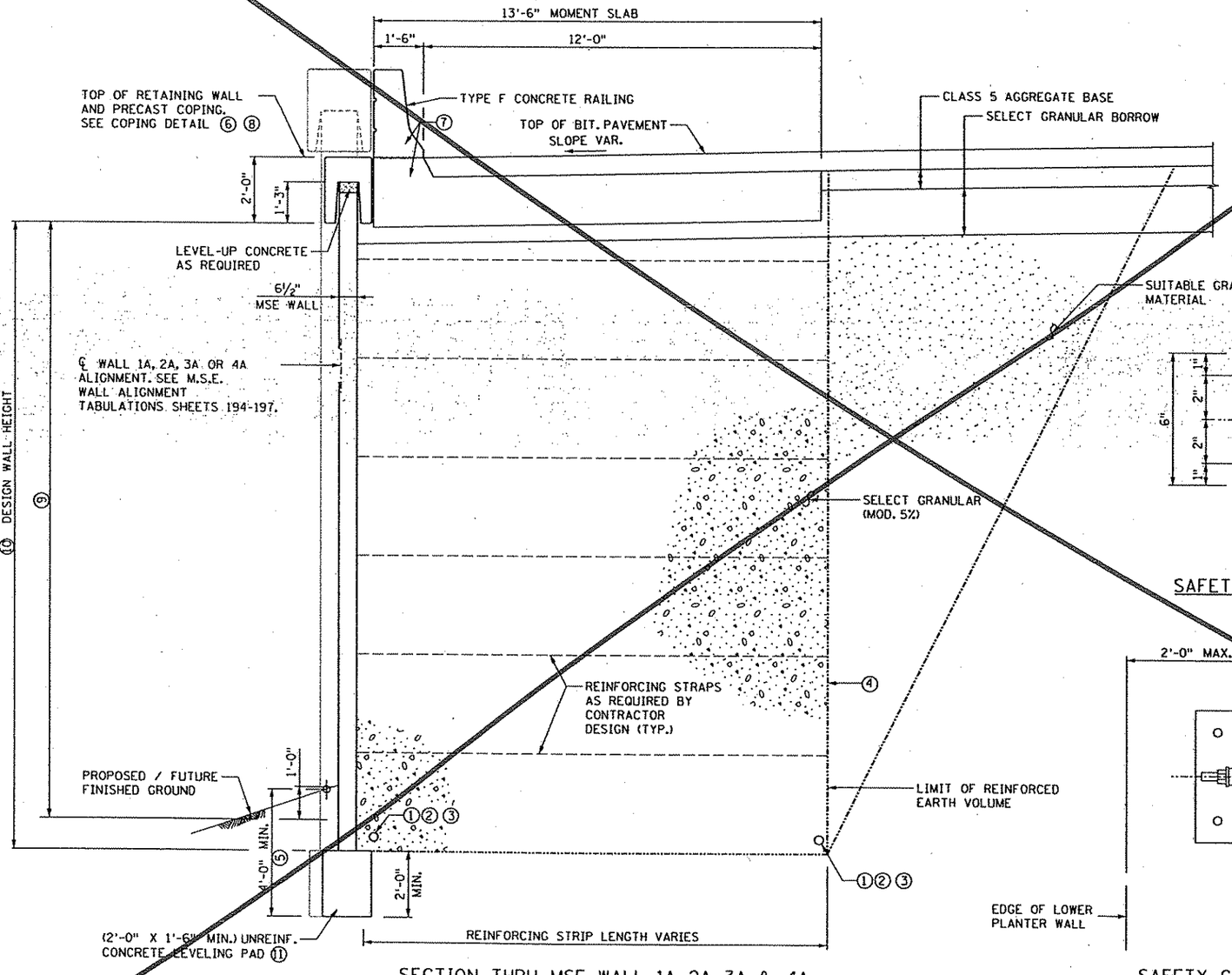
ADHESIVE ANCHORS AND ASSOCIATED HARDWARE SHALL BE STAINLESS STEEL (AISC 304 OR 316)

INSTALL ADHESIVE ANCHORS PER MANUFACTURERS WRITTEN INSTRUCTIONS.

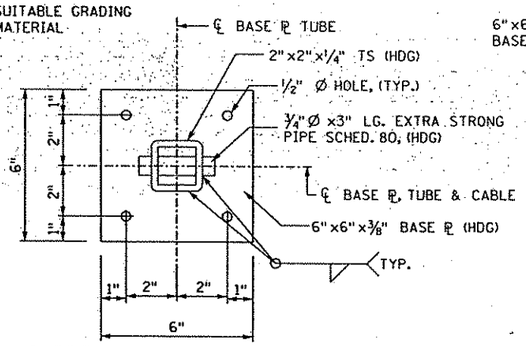
NUMBER OF SAFETY CABLE ANCHORS SHALL BE DETERMINED BY CONTRACTOR'S LAYOUT WITH SPACING NOT TO EXCEED AS SHOWN.

ALL COSTS ASSOCIATED W/SAFETY CABLE SHALL BE INCLUDED IN THE PRICE BID FOR 2411 "MECHANICALLY STABILIZED EARTH WALL."

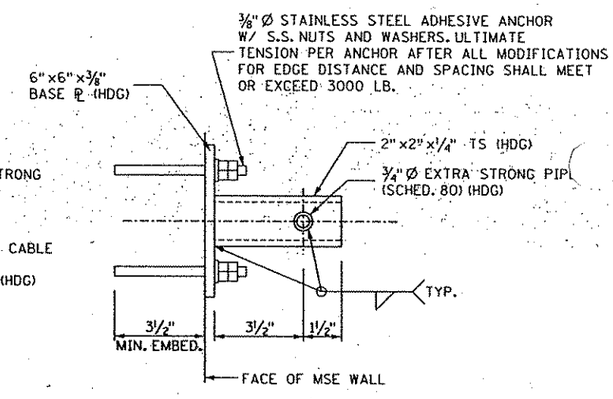
5/16" Ø 7x19 GALV. AIRCRAFT CABLE SHALL EXCEED U.S. FEDERAL SPEC. RR-W-410D, ASTM SPEC. A-90, SAE SPEC. J-684C AND ANSI SPEC. B30-10.



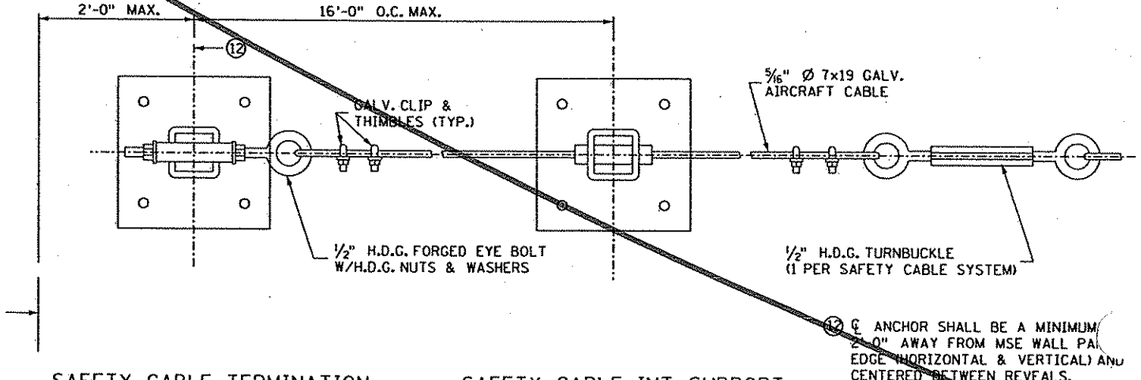
SECTION THRU MSE WALL 1A, 2A, 3A, & 4A



SAFETY CABLE ANCHOR PLAN



SAFETY CABLE ANCHOR DETAIL



SAFETY CABLE TERMINATION

SAFETY CABLE INT. SUPPORT

⑫ ℄ ANCHOR SHALL BE A MINIMUM 2'-0" AWAY FROM MSE WALL PANEL EDGE (HORIZONTAL & VERTICAL) AND CENTERED BETWEEN REVEALS.

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS — Thrasher Square, 700 South Third Street, Minneapolis, MN 55415

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: M.S.E. WALL DETAILS

DES: WFS	DR: WFS	APPROVED:
CHK: DDL	CHK: DDL	

SHEET NO. 198 OF 681 SHEETS

M.S.E. WALL

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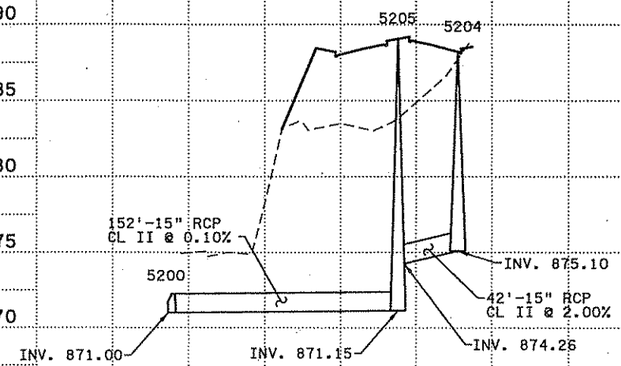
APRON (5200)
S.B C.S.A.H. 78
STA. 95+18.88
129.9' (LT)
OUT. 871.00 (W)

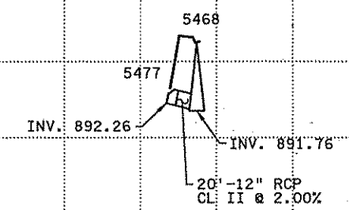
MH (5205)
N.B C.S.A.H. 78
STA. 95+21.91
21.5' (LT)
T.C. 889.05
INV. 874.26 (E)
OUT. 871.15 (W)

CB (5204)



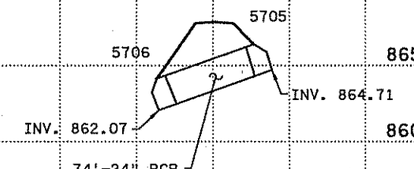
APRON (5477)
S.B. C.S.A.H 78
STA. 148+48.60
50.0' (LT)
INV. 892.26

CB (5468)



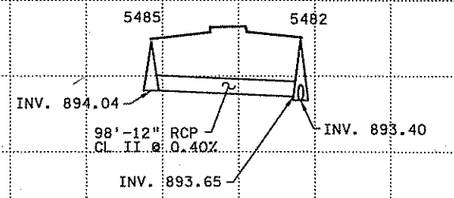
APRON (5706)
W.B. T.H. 242
STA. 17+42.50
40.0' (LT)
OUT. 862.07

APRON (5705)
W.B. T.H. 242
STA. 18+28.50
40.0' (LT)
INV. 864.71



CB (5485)
S.B C.S.A.H. 78
STA. 144+60.46
24.0' (LT)
T.C. 897.29
OUT. 894.04

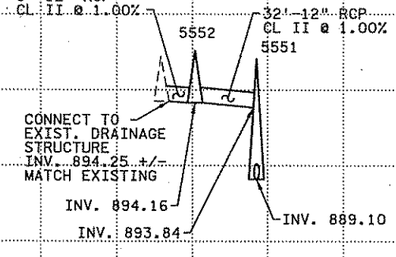
CB (5482)



EX. CB (6000)
W.B C.S.A.H. 116
STA. 13+55.68
22.4' (RT)

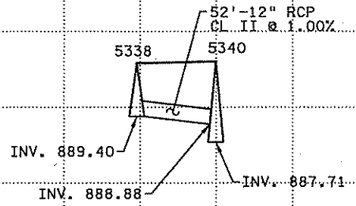
CB (5552)
E.B C.S.A.H. 116
STA. 13+55.99
13.0' (LT)
T.C. 897.62
INV. 894.16 (N)
OUT. 894.16 (S)

CB (5551)



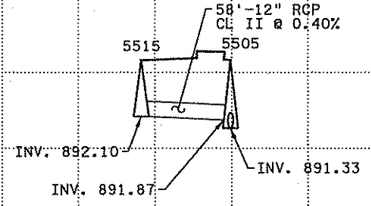
CB (5338)
E.B C.S.A.H. 116
STA. 131+81.00
24.0' (LT)
T.C. 892.90
OUT. 889.40

CB (5340)



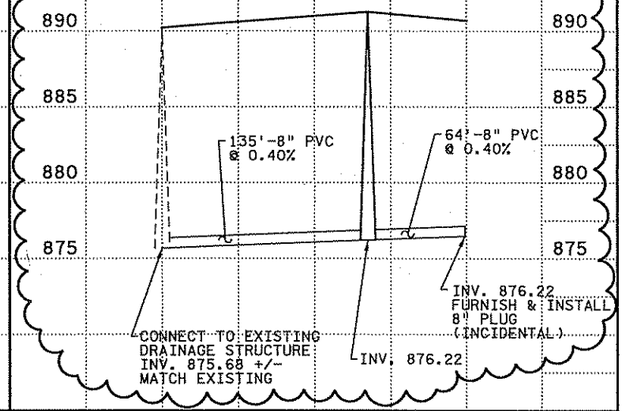
CB (5515)

CB (5505)



EX. SAN MH
N.B. C.S.A.H. 78
124+52.04
39.4 (RT)
EX. T.C. 890.23

PROP. SAN MH
N.B. C.S.A.H. 78
125+87.00
39.4 (RT)
T.C. 891.04



B.M. ELEV. = 905.21
TOP NUT OF HYDRANT
WEST SIDE OF CSAH 78
AT 132ND STREET

SSD - STOPPING SIGHT DISTANCE
HSD - HEADLIGHT SIGHT DISTANCE

NOTES:

STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.

NO	DATE	BY	CKD	APPR	REVISION
1	8-01-06	JJD	CMT	CMT	STORM SEWER REVISIONS PER ANOKA COUNTY COMMENTS
2	6-06-07	JJD	CMT	CMT	ADDENDUM #1: SANITARY SEWER PROFILE FOR PD SITE

...\5404\hl-mu\plan\5404.MDJ

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h:\projects\5404\hl-mu\plan\5404.MDJ

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: CHRIS M. TRBOYEVICH
Date 6/14/07 License # 41635

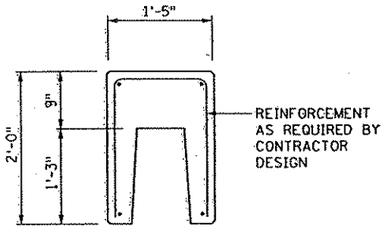
STATE AID PROJECT NO. 02-678-16
STATE PROJECT NO. X
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D.FITCHORN
DESIGNED BY C.TRBOYEVICH
CHECKED BY M. TURNER
COMM. NO. 0055404

SRF CONSULTING GROUP, INC.

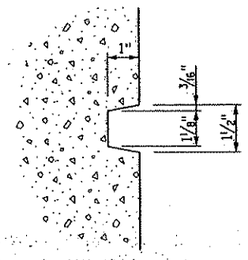
ANOKA COUNTY
MISCELLANEOUS DRAINAGE PROFILES
C.S.A.H. 78
S.B. CSAH 78 / N.B 127TH ST. / W.B. 127TH ST.

SHEET 198 OF 400



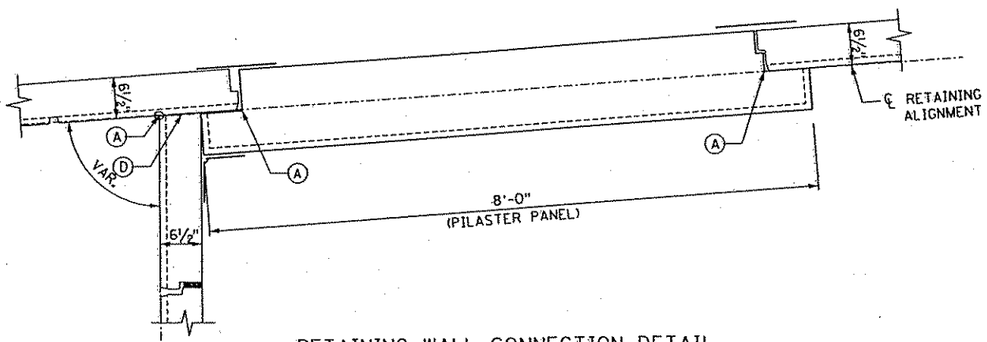
COPING DETAIL

0 1'

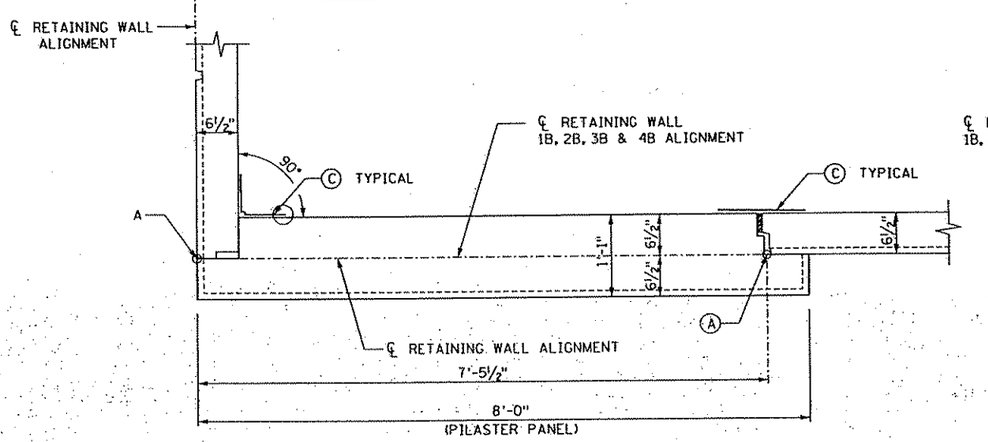


SECTION A-A

TYPE 'B' REVEAL (HORIZONTAL & VERTICAL)

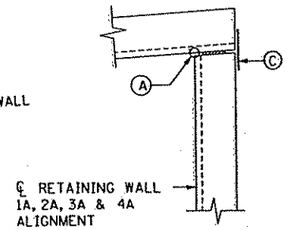


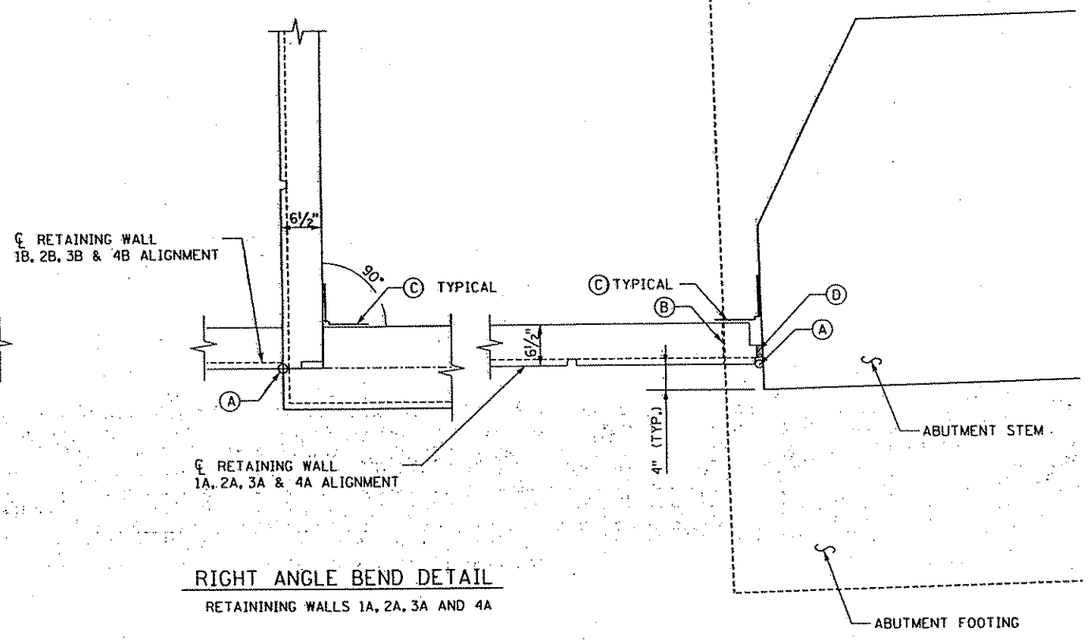
RETAINING WALL CONNECTION DETAIL



RIGHT ANGLE BEND DETAIL

RETAINING WALLS 1B, 2B, 3B AND 4B



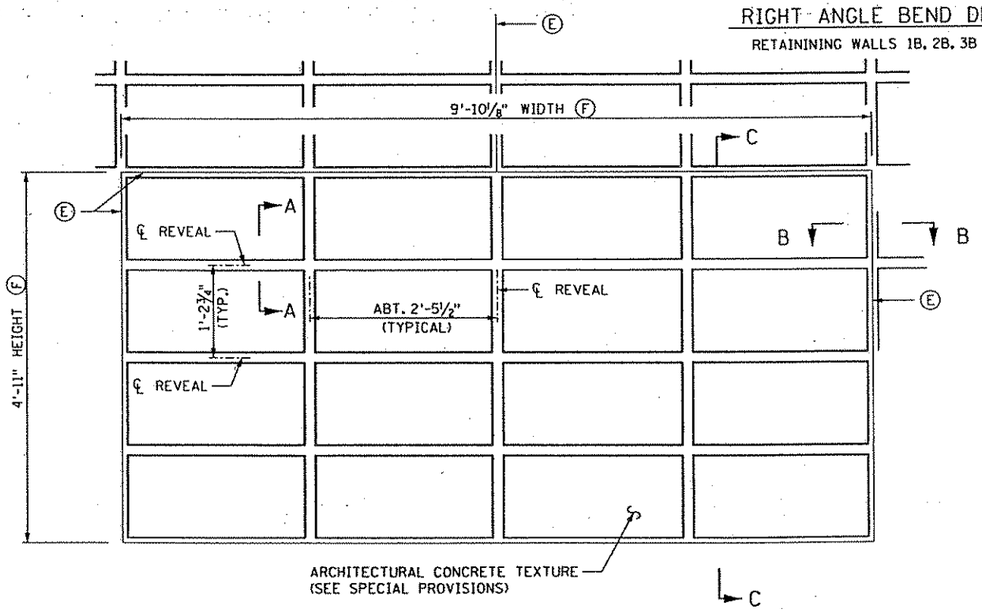


RIGHT ANGLE BEND DETAIL

RETAINING WALLS 1A, 2A, 3A AND 4A

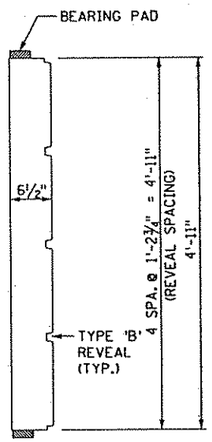
WALL CONNECTION TO ABUTMENT DETAIL

RETAINING WALLS 1A CONNECTION TO BRIDGE 02567 SHOWN. WALLS 2A, 3A, AND 4A ARE SIMILAR.



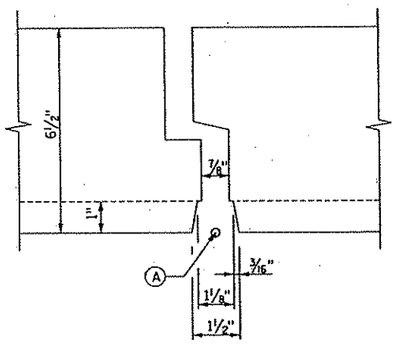
4'-11" X 9'-10 1/8" TYPICAL M.S.E. WALL PANEL DETAIL F

0 1'



SECTION C-C

0 1'



SECTION B-B

TYPE 'A' REVEAL (VERTICAL)

NOTES:

(A) JOINT NUMBER. SEE RETAINING WALL TABULATIONS AND RETAINING WALL PLAN AND PROFILE SHEETS.

(B) NOTCH M.S.E. WALL PANEL AS REQUIRED TO CLEAR ABUTMENT FOOTING.

(C) GEOTEXTILE FABRIC. ATTACH AT ALL VERTICAL AND HORIZONTAL JOINTS.

(D) PREMOLDED JOINT FILLER. ATTACH TO ABUTMENT STEM.

(E) PANEL JOINTS MAY BE STAGGERED AS REQUIRED BY CONTRACTORS DESIGN. CENTERLINE OF REVEALS MUST LINE UP ON EACH SIDE OF THE JOINT.

(F) MINOR DEVIATIONS IN THE PANEL SIZE MAY BE ALLOWED. THESE DEVIATIONS SHALL NOT CHANGE THE AESTHETIC CHARACTER OF THE WALL. ALL POTENTIAL CHANGES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. SEE SPECIAL PROVISIONS.

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: M.S.E. WALL DETAILS

DES: WFS	DR: WFS	APPROVED:
CHK: DDL	CHK: DDL	

SHEET NO. 199 OF 681 SHEETS

M.S.E. WALL

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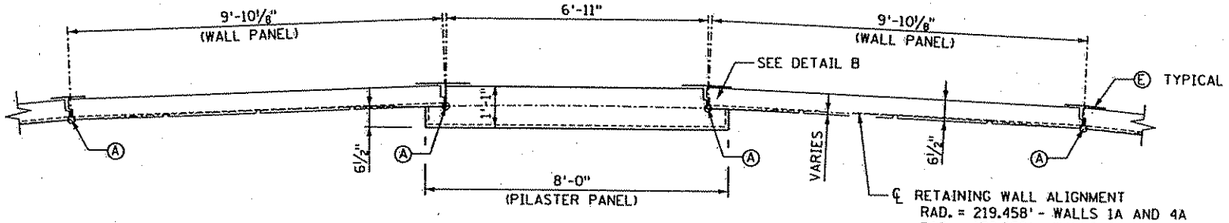
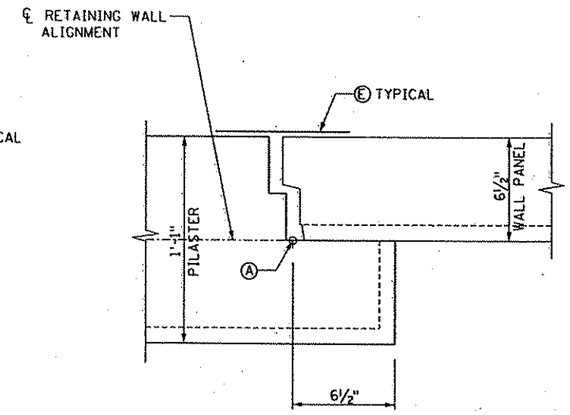
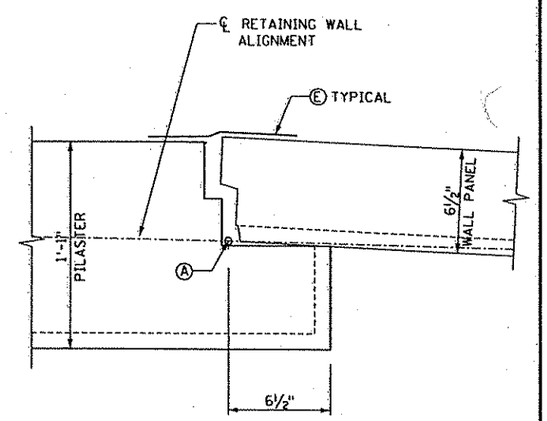


SECTION A-A (THRU CURVED ALIGNMENT)

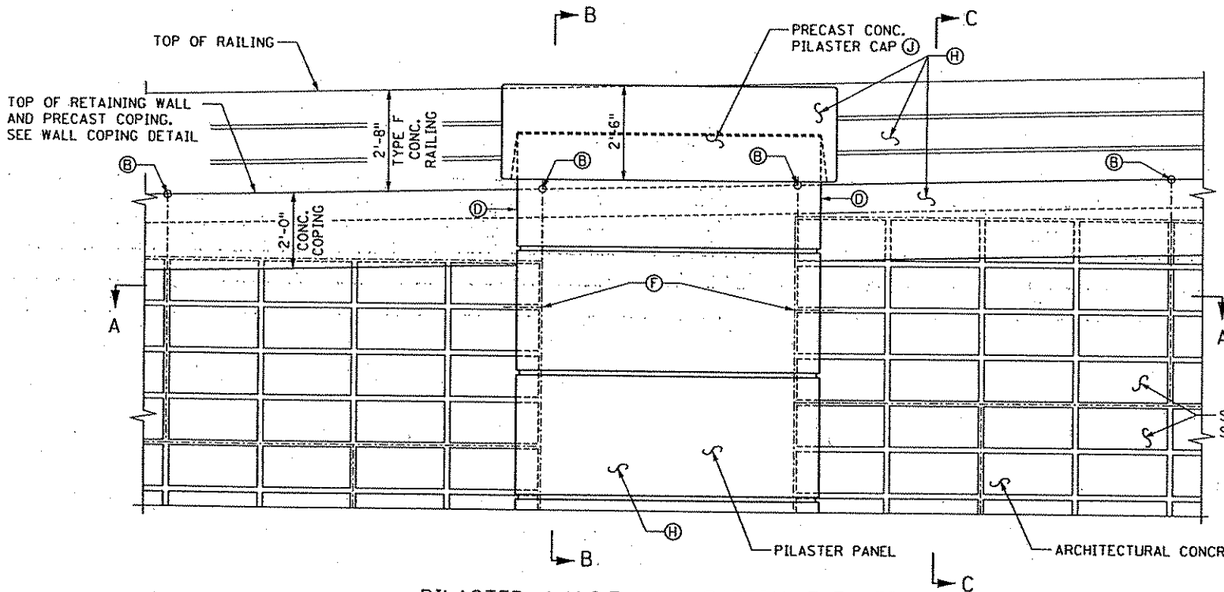
0 2'



DETAIL A

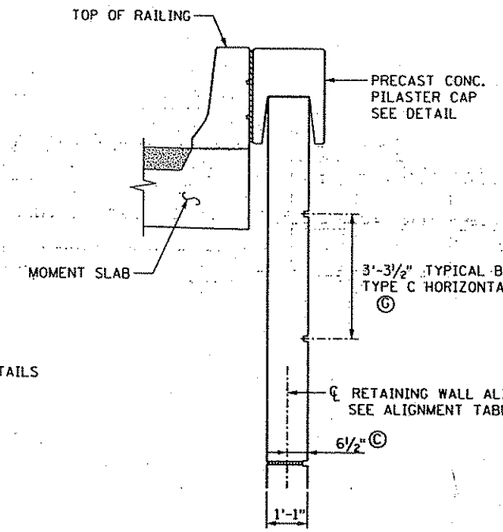


DETAIL B



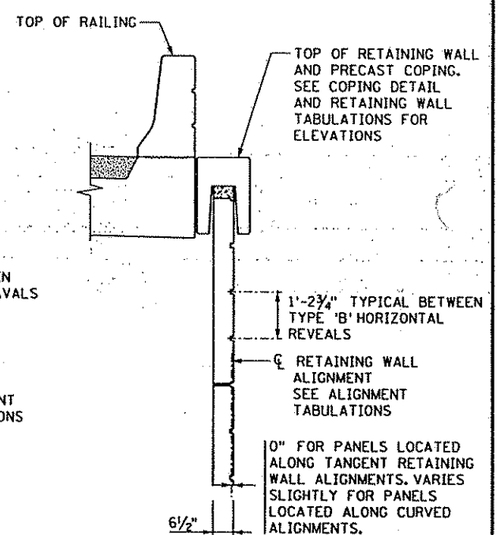
PILASTER / M.S.E. WALL PARTIAL ELEVATION

0 2'



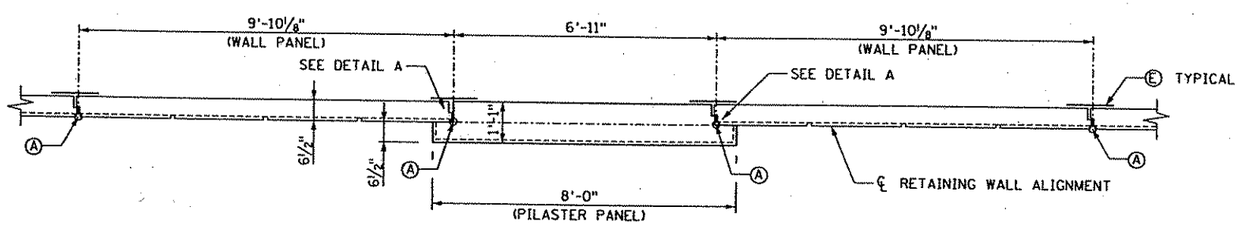
SECTION B-B

0 2'



SECTION C-C

0 2'



SECTION A-A (THRU TANGENT ALIGNMENT)

0 2'

NOTES:

Ⓐ JOINT NUMBER. SEE RETAINING WALL TABULATIONS AND RETAINING WALL PLAN AND PROFILE SHEETS.

Ⓑ TOP OF WALL. FOR ELEVATION SEE RETAINING WALL TABULATIONS.

Ⓒ 6½" FOR PILASTERS LOCATED ALONG TANGENT RETAINING WALL ALIGNMENTS. VARIES SLIGHTLY FOR PILASTERS LOCATED ALONG CURVED ALIGNMENTS.

Ⓓ MITER CUT PRECAST CONC. RETAINING WALL COPING AT PILASTER JOINTS.

Ⓔ GEOTEXTILE FABRIC. ATTACH AT ALL VERTICAL AND HORIZONTAL JOINTS.

Ⓕ STANDARD REVEAL ELEVATION SHALL MATCH ON EACH SIDE OF PILASTER.

Ⓒ TYPE C REVEALS SHALL BE CONSIDERED INCIDENTAL.

Ⓗ SEE SPECIAL PROVISIONS FOR FINISH COLOR, CONSIDERED INCIDENTAL.

Ⓙ TOP OF PILASTER LEVEL. ELEVATION AT TOP OF PILASTER 2'-8" ABOVE THE AVERAGE TOP OF WALL ELEVATIONS ON EITHER SIDE.

Ⓚ SEE SPECIAL PROVISIONS FOR CONCRETE TEXTURE, CONSIDERED INCIDENTAL.

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Threshter Square 700 South Third Street Minneapolis, MN 55415

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PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: M.S.E. WALL DETAILS

DES: WFS	DR: WFS	APPROVED:
CHK: DDL	CHK: DDL	

SHEET NO. 200 OF 681 SHEETS

M.S.E. WALL

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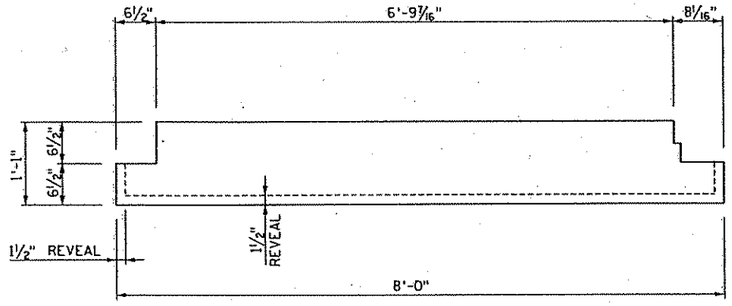
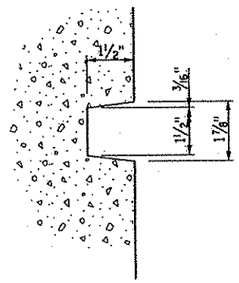


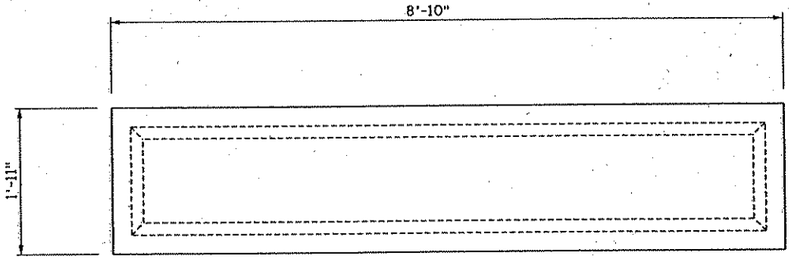
SECTION B-B

0 1'

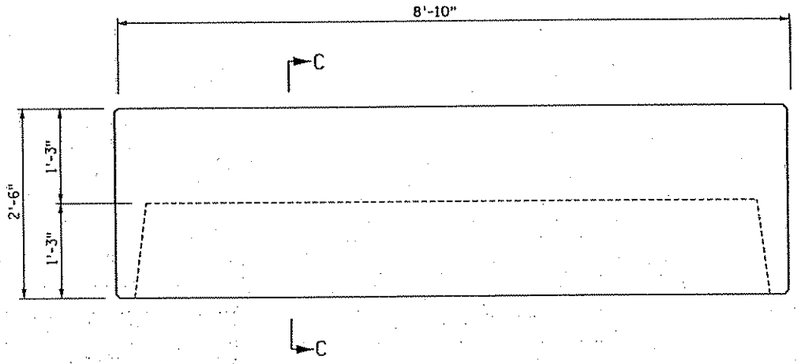


SECTION A-A

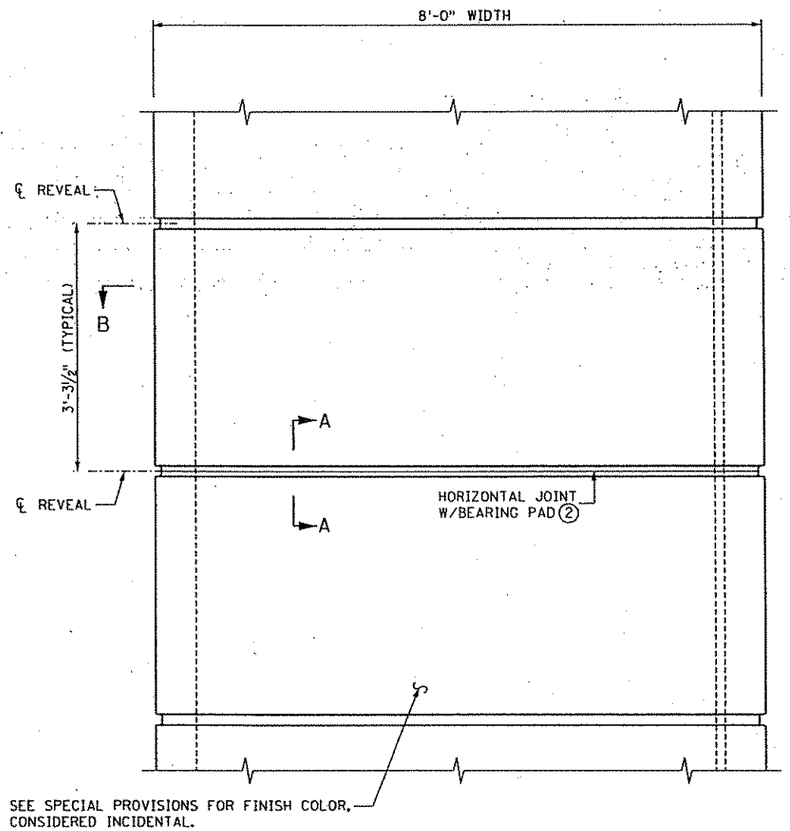
TYPE 'C' REVEAL ①



PILASTER CAP PLAN

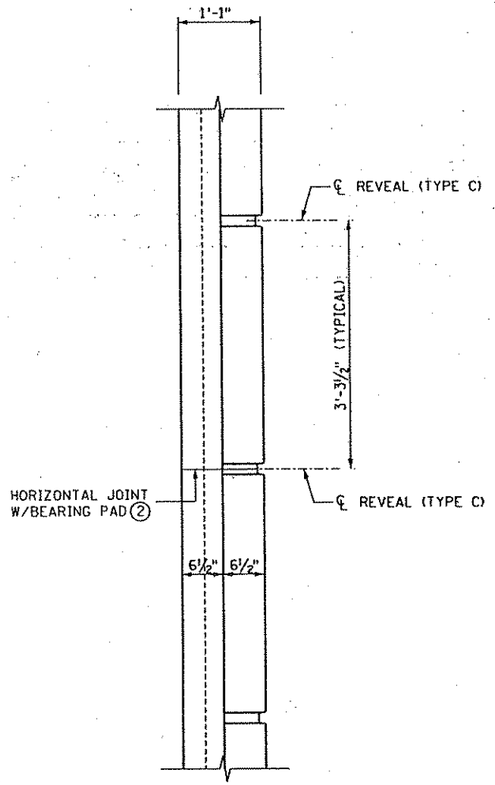


PILASTER CAP ELEVATION



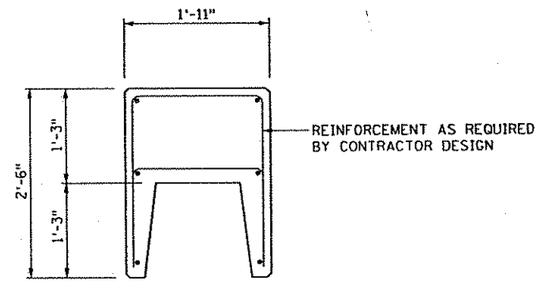
PILASTER ELEVATION

0 1'



PILASTER END VIEW

0 1'



SECTION C-C

0 1'

① TYPE C REVEALS SHALL BE CONSIDERED INCIDENTAL.

② HORIZONTAL JOINTS SHALL OCCUR AT THE CENTER OF REVEAL (TYPE C).

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Threshor Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D Long

PRINTED NAME: DAVID D. LONG

DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: M.S.E. WALL DETAILS

DES: WFS | DR: WFS | APPROVED:

CHK: DDL | CHK: DDL

SHEET NO. 201 OF 681 SHEETS

M.S.E. WALL

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NOTES:

NO REINFORCING STRAPS WILL BE ALLOWED IN ORGANIC PLANTING MATERIAL OR SAND LAYER.

① 3'-6" FROM TOP OF LEVEL FILL TO TOP OF GEOMEMBRANE OR PROVIDE 6" MINIMUM COVER OVER THE TOP REINFORCING STRAP WHICHEVER PROVIDES THE LESSER DEPTH FOR ORGANIC PLANTING MATERIAL.

② 6" SAND. INCLUDED IN PRICE BID FOR 2411 "MECHANICAL STABALIZED EARTH WALL". SAND SHALL MEET MNDOT SPEC. 3149.2K.

③ LAY GEOMEMBRANE WITH 0.5% GRADE TO DRAIN TO OPENINGS. SEE SHEETS NO. 186 TO 193 FOR PLAN. GEOMEMBRANE SHALL BE A MINIMUM 30 MIL PVC OR POLYPROPELENE GEOMEMBRANE WITH ALL JOINTS SEAMED.

④ LAY GEOMEMBRANE AND/OR GEOTEXTILE TO THE TOP OF THE TOPSOIL. MAINTAIN POSITION ALONG FACE OF WALL BY ATTACHING TO THE CONCRETE.

⑤ GEOMEMBRANE AND GEOTEXTILE TO BE INSTALLED PER MANUFACTURERS RECOMENDATIONS. INCLUDED IN BID PRICE FOR MECHANICAL STABILIZED EARTH WALL.

⑥ MINIMUM 4" THERMOPLASTIC PERFORATED PIPE (OR AS REQUIRED BY CONTRACTOR'S DESIGN), SPEC. 3245, WRAP WITH TYPE 1 GEOTEXTILE, SPEC. 3733 (TYP.) INSTALLATION AS PER SPEC. 2502, WITH PRECAST HEAD WALL WITH RODENT SCREEN AT OUTLET. CONNECT TO BR. 02567 DRAINAGE SYSTEM.

⑦ DRAIN MAY BE DISCHARGED INTO T.H. 10 DITCH AT A SPACING REQUIRED BY CONTRACTOR'S DESIGN. THE SPACING OF DISCHARGE PIPES SHALL NOT EXCEED 200' AND SHALL BE SUBMITTED TO MnDOT FOR APPROVAL AND COORDINATION WITH FUTURE HIGHWAY WIDENING.

⑧ PAID AS BID ITEM 2502 "DRAINAGE SYSTEM".

⑨ PAY LIMITS OF EXCAVATION. ACTUAL LIMITS OF EXCAVATION DETERMINED BY OSHA REGULATIONS AND IN-SITU SOILS. EXCAVATION BEYOND LIMITS OF EXCAVATION AT CONTRACTOR'S EXPENSE.

⑩ THE ELEVATION AT THE BOTTOM OF THE LEVELING PAD SHALL BE CONTROLLED BY THE LOWER OF THE PROPOSED FINISHED GROUND LINE OR THE FUTURE FINISHED GROUND LINE. SEE TABULATIONS FOR ELEVATIONS.

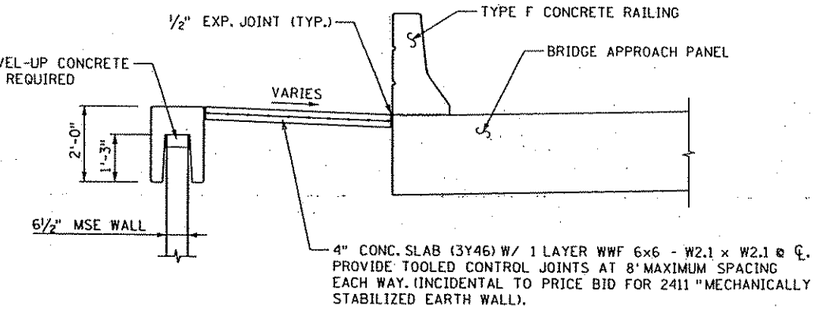
⑪ SEE SEE PLAN AND PROFILE AND TABULATIONS FOR TOP OF WALL ELEVATIONS.

⑫ SEE SPECIAL PROVISIONS FOR SPECIAL SURFACE FINISH.

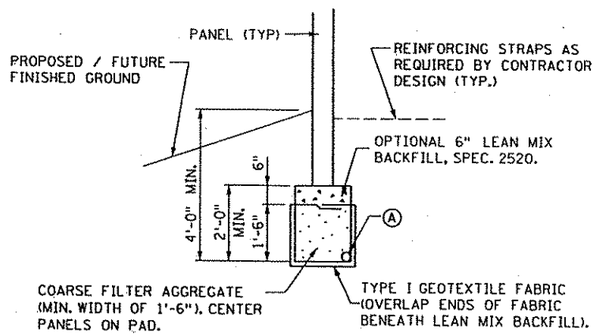
⑬ LIMITS OF ARCHITECTURAL CONCRETE TEXTURE. TYPICAL M.S.E. WALL. CONSIDERED INCIDENTAL , SEE SPECIAL PROVISIONS. PILASTERS NOT INCLUDED.

⑭ SAFETY CABLE SYSTEM, SEE DETAILS SHEET 198.

⑮ SEE DETAIL A FOR OPTIONAL CONCRETE LEVELING PAD DETAIL.

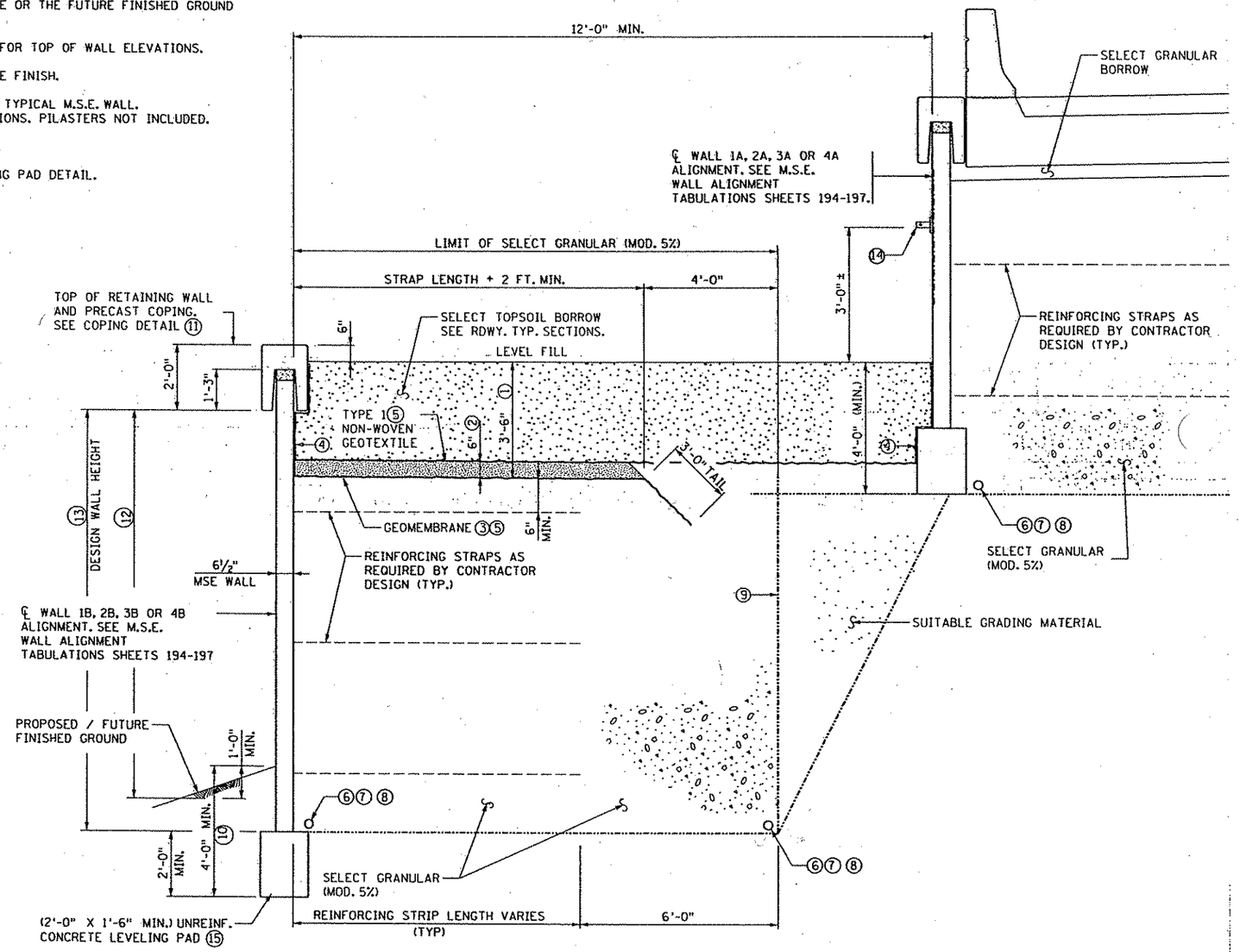


SECTION THRU MSE WALL NEAR BRIDGE
1A, 2A, 3A, & 4A



DETAIL A
OPTIONAL CONCRETE LEVELING PAD

Ⓐ 4" THERMOPLASTIC PERFORATED PIPE SPEC. 3245. WRAP WITH GEOTEXTILE, SPEC. 3733 (TYP.) INSTALLATIONS AS PER SPEC. 2502, WITH PRECAST CONCRETE HEAD WALL AT OUTLET.



SECTION THRU MSE WALL 1B, 2B, 3B, & 4B

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thresher Square 700 South Third Street Minneapolis, MN 55415	SIGNATURE: David D Long PRINTED NAME: DAVID D. LONG DATE: JANUARY 8, 2007 REG. NO. 24384	TITLE: M.S.E. WALL DETAILS	DES: DDL / CHK: JMF	DR: WFS / CHK: JMF	APPROVED:
			SHEET NO. 202 OF 681 SHEETS		M.S.E. WALL

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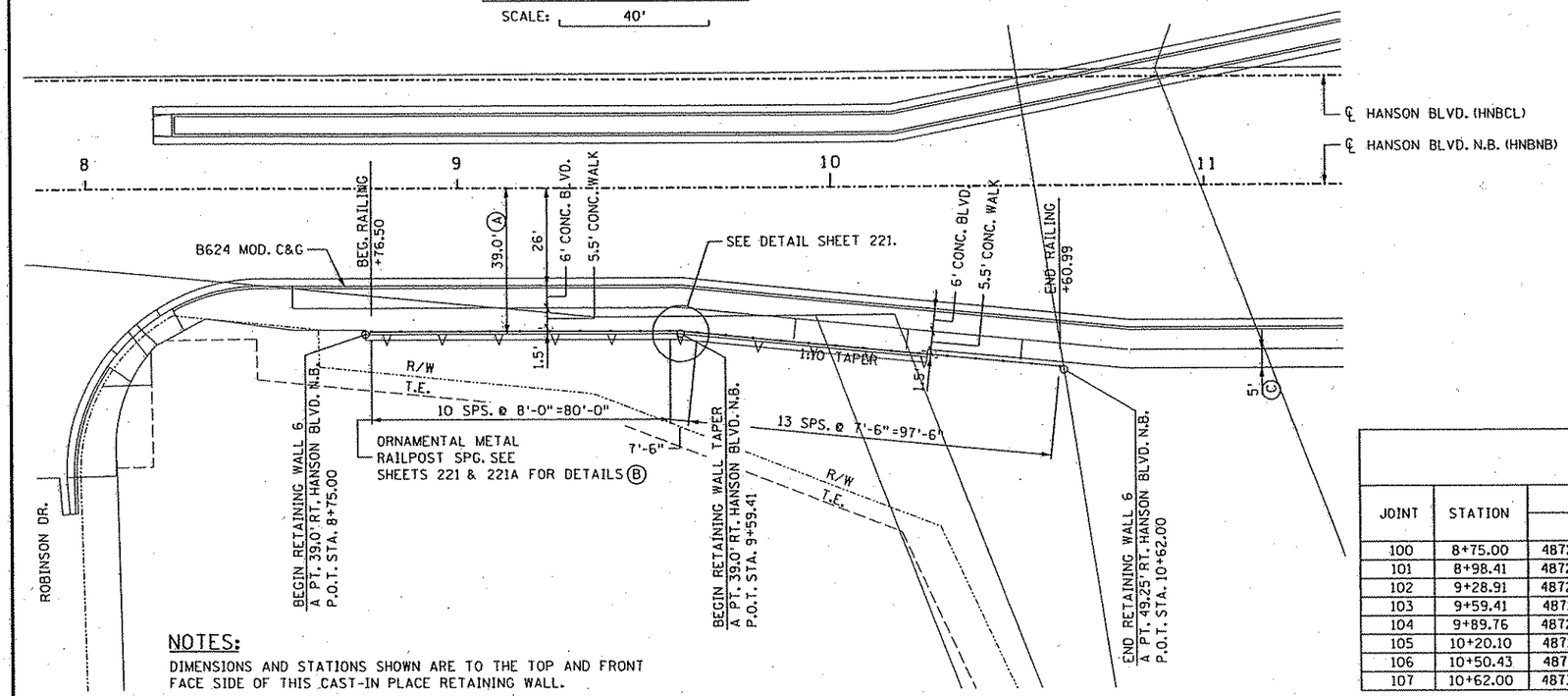
RETAINING WALL 6 PLAN

SCALE: 40'



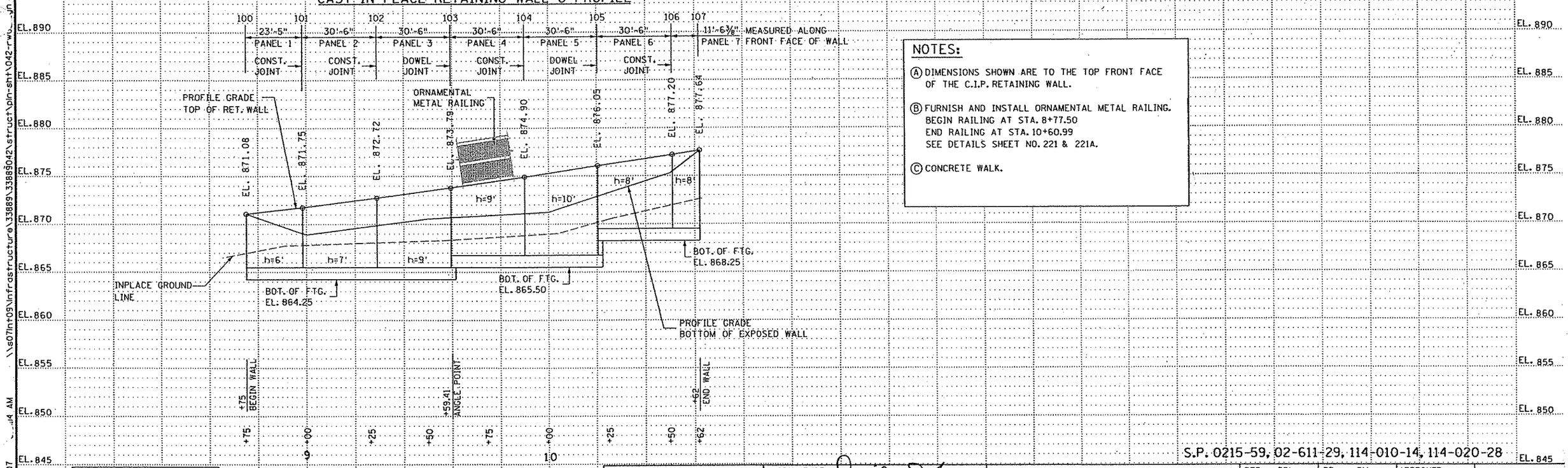
NOTES:

DIMENSIONS AND STATIONS SHOWN ARE TO THE TOP AND FRONT FACE SIDE OF THIS CAST-IN PLACE RETAINING WALL.

RETAINING WALL 6

JOINT	STATION	COORDINATES X	COORDINATES Y	FINISHED GRADE (S.E. FACE)	TOP OF WALL	TOP OF FOOTING	HEIGHT LIN. FT.	BOT. OF FOOTING	LENGTH LIN. FT.	PANEL
100	8+75.00	487218.022	152949.240		871.08	865.50	5.58	864.25		
101	8+98.41	487229.947	152969.392	869.05	871.75	865.50	6.25	864.25	23.42	1
102	9+28.91	487245.480	152995.641	869.88	872.72	865.50	7.22	864.25	30.5	2
103	9+59.41	487261.012	153021.890	870.69	873.79	865.50	8.29	864.25	30.5	3
104	9+89.76	487279.075	153046.456	871.09	874.90	866.75	8.15	865.50	30.5	4
105	10+20.10	487297.143	153076.029	872.88	876.05	866.75	9.30	865.50	30.5	5
106	10+50.43	487315.210	153095.602	875.45	877.20	869.50	7.70	868.25	30.5	6
107	10+62.00	487322.078	153104.956		877.64	869.50	8.14	868.25	11.53	7

CAST-IN PLACE RETAINING WALL 6 PROFILE



NOTES:

(A) DIMENSIONS SHOWN ARE TO THE TOP FRONT FACE OF THE C.I.P. RETAINING WALL.

(B) FURNISH AND INSTALL ORNAMENTAL METAL RAILING.
BEGIN RAILING AT STA. 8+77.50
END RAILING AT STA. 10+60.99
SEE DETAILS SHEET NO. 221 & 221A.

(C) CONCRETE WALK.

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

SCALE: 40' HORIZ. 10' VERT.

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D. Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: PLAN AND PROFILE

DES: DDL DR: DM APPROVED:
CHK: DJV CHK: DJV

SHEET NO. 203 OF 681 SHEETS

RETAINING WALL 6

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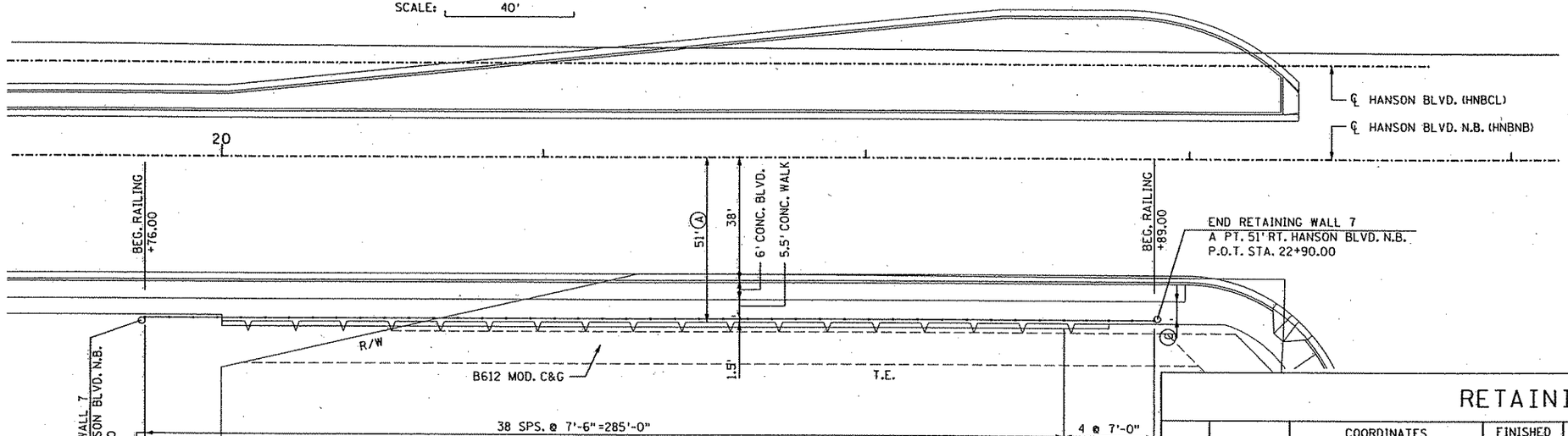
RETAINING WALL 7 PLAN

SCALE: 40'



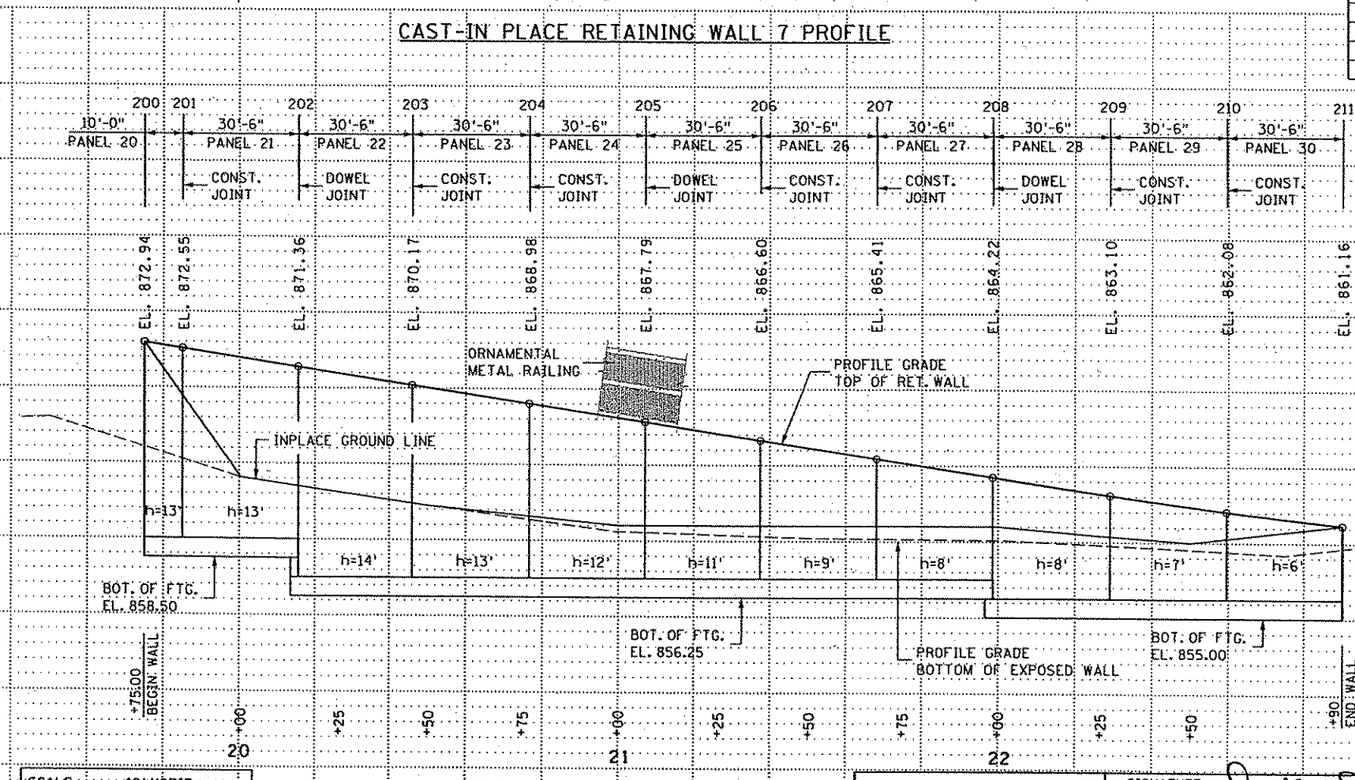
NOTES:

DIMENSIONS AND STATIONS SHOWN ARE TO THE TOP AND FRONT FACE SIDE OF THIS CAST-IN PLACE RETAINING WALL.

RETAINING WALL 7

JOINT	STATION	COORDINATES X	COORDINATES Y	FINISHED GRADE (S.E. FACE)	TOP OF WALL	TOP OF FOOTING	HEIGHT LIN. FT.	BOT. OF FOOTING	LENGTH LIN. FT.	PANEL
200	19+75.00	487788.534	153889.802		872.94	859.75	13.19	858.50		
201	19+85.00	487793.627	153898.408	867.80	872.55	859.75	12.80	858.50	10.0	20
202	20+15.50	487809.159	153924.657	863.27	871.36	857.50	13.86	856.25	30.5	21
203	20+46.00	487824.692	153950.905	862.35	870.17	857.50	12.67	856.25	30.5	22
204	20+76.50	487840.224	153977.154	861.59	868.98	857.50	11.48	856.25	30.5	23
205	21+07.00	487855.757	154003.403	861.00	867.79	857.50	10.29	856.25	30.5	24
206	21+37.50	487871.289	154029.651	861.00	866.60	857.50	9.10	856.25	30.5	25
207	21+68.00	487886.822	154055.900	861.00	865.41	857.50	7.91	856.25	30.5	26
208	21+98.50	487902.354	154082.149	861.00	864.22	856.25	7.97	855.00	30.5	27
209	22+29.00	487917.887	154108.397	860.38	863.10	856.25	6.85	855.00	30.5	
210	22+59.50	487933.419	154134.646	860.27	862.08	856.25	5.83	855.00	30.5	
211	22+90.00	487948.951	154160.895		861.16	856.25	4.91	855.00	30.5	

CAST-IN PLACE RETAINING WALL 7 PROFILE



NOTES:

Ⓐ DIMENSIONS SHOWN ARE TO THE TOP FRONT FACE OF THE C.I.P. RETAINING WALL.

Ⓑ FURNISH AND INSTALL ORNAMENTAL METAL RAILING.
BEGIN RAILING AT STA. 19+76.00
END RAILING AT STA. 22+89.00
SEE DETAILS SHEET NO. 221 & 221A.

Ⓒ CONCRETE WALK.

SCALE: 40' HORIZ. 10' VERT.

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D Long
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CHK: DJV CHK: DJV

SHEET NO. 204 OF 681 SHEETS

RETAINING WALL 7

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

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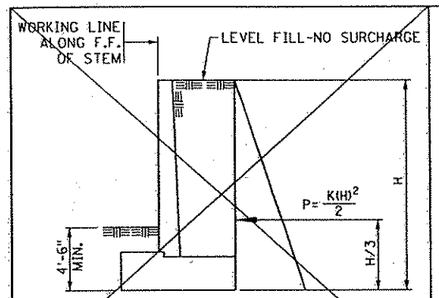
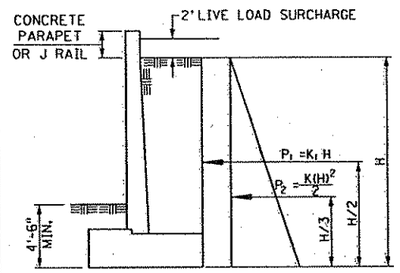


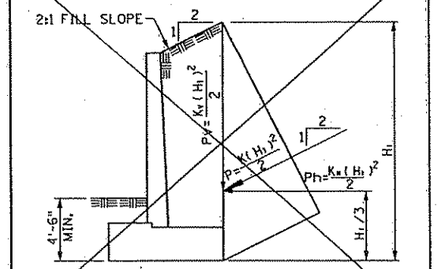
LEVEL FILL

	K
ACTIVE	33



2' - LL SURCHARGE

	K	K_1
ACTIVE	33	66



2:1 SLOPED FILL

	K	K_h	K_v
ACTIVE	49	44	22

LOADING CASES

DESIGN CRITERIA

1992 AASHTO DESIGN SPECIFICATIONS
WORKING STRESS-STABILITY, FOUNDATIONS
LOAD FACTOR DESIGN-REINFORCED CONCRETE
f'c=4000 PSI
fy =60000 PSI n=8

SEE FOUNDATION REPORT FOR RECOMMENDED FOUNDATION TYPE.
ALLOWABLE BENDING (LATERAL LOAD) PER PILE:
60 TON CIP PILE: 13 KIPS
55 TON HP PILE 12 KIPS
50 TON CIP PILE: 11 KIPS
30 TON TIMBER PILE: 7.5 KIPS

BACKFILL CHARACTERISTICS:
INTERNAL ANGLE OF FRICTION; 35°
EQUIVALENT FLUID PRESSURE (k), IN PCF, IS SHOWN IN LOADING CASE TABLES.
UNIT WEIGHT 125 PCF
COEFFICIENT OF FRICTION 0.55
βe = 1.0

BAR LAP (CLASS C)

BAR SIZE	PLAIN ④	EPOXY
5	2'-5"	2'-6"
6	2'-11"	3'-10"
7	3'-8"	4'-11"
8	4'-10"	6'-5"
9	6'-1"	8'-1"

BAR LAP (CLASS A)

BAR SIZE		EPOXY
5		1'-11"
6		2'-3"
7		2'-11"
8		3'-9"
9		4'-9"

SUMMARY OF QUANTITIES FOR RETAINING WALLS

PANEL	STRUCTURE CONCRETE		REINFORCEMENT BARS		STRUCTURE EXCAVATION		ORNAMENTAL METAL RAILING	DRAINAGE SYSTEM ⑥
	1A43 (FOOTING)	3Y43 (STEM)	PLAIN	EPOXY	CLASS E	CLASS__		
	CU YD	CU YD	POUND	POUND	CU YD	CU YD	LIN. FT.	L.S.
1	4.5	8.5	501	830	16.2		22.42	1
2	6.6	13.0	601	1158	27.2		30.50	1
3	8.0	17.2	850	1382	33.9		30.50	1
4	8.0	17.2	736	1382	31.3		30.50	1
5	9.3	19.3	905	1681	36.1		30.50	1
6	7.3	15.0	633	1266	33.2		30.50	1
7	2.8	5.7	245	560	12.0		10.53	1
20	3.4	8.5	473	855	26.1		9.00	1
21	11.4	26.0	1229	2118	57.5		30.50	1
22	12.0	26.0	1505	2118	73.7		30.50	1
23	11.4	26.0	1229	2118	58.0		30.50	1
24	11.0	23.7	1079	1978	47.0		30.50	1
25	9.5	21.5	954	1814	40.3		30.50	1
26	8.0	17.2	736	1377	33.9		30.50	1
27	7.3	15.0	633	1237	33.1		30.50	1
28	7.3	15.0	705	1237	39.2		30.50	1
29	6.6	13.0	601	1150	33.8		30.50	1
30	5.9	11.1	500	1048	30.8		29.50	1
TOTAL	140.3	298.9	14115	23927	663		498.50	1

NOTES:

③ LIMITING CRITERIA

④ LAPS ARE GIVEN FOR THE TOP BAR CONDITION.

⑤ CURVED FORMS MAY BE USED FOR ANY WALL WITH A RADIUS, BUT MUST BE USED ON WALLS WITH RADIUS LESS THAN 23'.

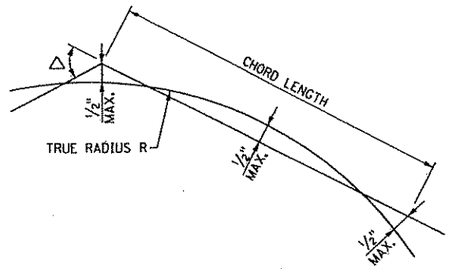
⑥ SEE MISC. DETAILS FOR DRAINAGE QUANTITIES.

CURVED RETAINING WALLS ALLOWABLE CHORD LENGTH ⑤

MAXIMUM DEGREE OF CURVE	RADIUS	ALLOWABLE CHORD LENGTH	DEVIATION FROM TRUE RADIUS	MAXIMUM DEFLECTION ANGLE Δ
4°-00'	1432'	30'-6"	± ½" ③	1°-15'
8°-00'	716'	21'-10"	± ½" ③	1°-45'
16°-30'	347'	15'-3"	± ½" ③	2°-30'
23°-00'	249'	12'-11"	± ½" ③	2°-57'
65°-30'	87'	7'-7½"	± ½"	5°-00' ③
114°-30'	50'	4'-4⅝"	± ¼"	5°-00' ③
250°-00'	23'	2'-0"	± ⅛"	5°-00' ③

ENGLISH/METRIC BAR SIZE CONVERSION TABLE

ENGLISH SIZE	METRIC SIZE
#3	10
#4	13
#5	16
#6	19
#7	22
#8	25
#9	29
#10	32
#11	36



SHEET INDEX

NO.	TITLE
203&204	GENERAL PLAN & ELEVATION - WALL 6 & 7
205	GENERAL NOTES & SUMMARY OF QUANTITIES
206-210	WALL REINFORCEMENT
211&212	PANEL TABULATIONS
213-216	MISCELLANEOUS DETAILS
217&218	ORNAMENTAL METAL RAILING TYPE SPECIAL

GENERAL NOTES:

UTILITIES:
EXISTING AND PROPOSED UTILITIES ARE SHOWN IN THE GRADING PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING FACILITIES AND SHALL EXERCISE CARE IN ADJACENT CONSTRUCTION.

EXCAVATION AND EARTHWORK:
ALL EXCAVATION AND EMBANKMENT WORK SHALL CONFORM TO MN/DOT 2451.

CONCRETE:
ALL CONCRETE SHALL CONFORM TO MN/DOT 2461.

TRANSVERSE CONSTRUCTION JOINTS IN FOOTING ARE PERMISSIBLE. KEYWAYS AND CONTINUOUS REINFORCEMENT ARE REQUIRED THROUGH THESE JOINTS.

POURING SEQUENCE:
THE POURING SEQUENCE SHALL BE AT THE CONTRACTOR'S OPTION BUT MUST BE SUBMITTED (WITH ADEQUATE APPROVAL TIME) TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING THE FIRST POUR.

CONSTRUCTION:
CONSTRUCTION SHALL BE IN ACCORDANCE WITH MN/DOT 2411. EXCEPT AS NOTED.

REINFORCING STEEL:
REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO MN/DOT 3301, GRADE 60 AND EPOXY COATED EXCEPT AS NOTED.

ALL BENT BAR DIMENSIONS ARE GIVEN OUT-TO-OUT.

THE CLEAR DISTANCE BETWEEN REINFORCEMENT BARS AND FACE OF CONCRETE SHALL BE 3" IN FOOTINGS, 5" IN BOTTOM OF SPREAD FOOTINGS, AND 2" ELSEWHERE, UNLESS OTHERWISE NOTED. FRONT FACE MAY HAVE 1" COVER WHEN RUSTICATION IS USED.

THE FIRST DIGIT OR THE FIRST TWO DIGITS OF EACH BAR MARK INDICATES THE ENGLISH BAR SIZE DESIGNATION. SEE THE ENGLISH/METRIC BAR SIZE CONVERSION TABLE FOR THE EQUIVALENT METRIC BAR SIZE DESIGNATION.

BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED. ALL BARS WHICH COME OUT OF THE FOOTING AND ALL BARS WHICH ARE ABOVE THE FOOTING SHALL BE EPOXY COATED.

THE CONTRACTOR HAS THE OPTION OF SUBSTITUTING 60'-0" LONG BARS FOR THE LONGITUDINAL FOOTING STEEL SHOWN. CHANGES IN THE BILL OF REINFORCEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PAYMENT WILL BE BASED ON QUANTITIES SHOWN.

THE CONSTRUCTION JOINT FOR CONCRETE RAIL MAY BE LOCATED AT TOP OR BOTTOM OF COPE, AT THE CONTRACTOR'S OPTION. PAYMENT WILL BE BASED ON QUANTITIES SHOWN, WHICH IS BASED ON CONSTRUCTION JOINT ABOVE COPE.

FOR VARIABLE STEM HEIGHTS, VARY THE LAP LENGTH OF THE VERTICAL REINFORCEMENT. MINIMUM LAP LENGTHS ARE GIVEN IN THE TABLE ON THIS SHEET. SMALLER BAR GOVERNS LAP LENGTH.

DOWEL BAR ASSEMBLIES:
DOWELED JOINT DETAILS ARE INCLUDED IN THE PLANS. NO SEPARATE PAYMENT WILL BE MADE.

CONSTRUCTION JOINTS MAY BE SUBSTITUTED FOR SOME OF THE CORK & DOWEL JOINTS AT THE CONTRACTOR'S OPTION. CORK & DOWEL JOINTS MUST BE SPACED AT 91'-6" MAXIMUM.

GEOMETRICS AND GRADES:
DATA FOR BASELINE GEOMETRY IS TABULATED FOR WALL ALIGNMENT, SEE LAYOUT SHEETS. WALL ALIGNMENT REFERENCE IS ALONG FRONT FACE OF WALL.

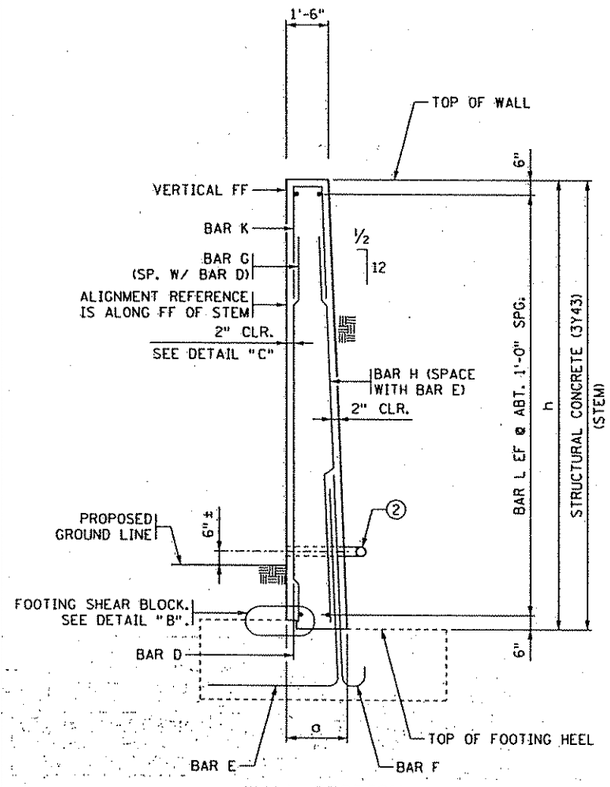
ON UP TO 10% SLOPES, THE CONTRACTOR HAS THE OPTION OF POURING FOOTINGS SLOPED OR STEPPED. ADDITIONAL CONCRETE VOLUMES AND CHANGES TO THE BILL OF REINFORCEMENT WHICH MAY RESULT FROM CONTRACTOR REQUESTED OPTIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL PAYMENT WILL BE MADE.

APPROVED: MARCH 14, 1996
Donald J. Flemming
STATE BRIDGE ENGINEER

STANDARD SHEET NO. FIG. 5-395.200	TITLE: GENERAL NOTES AND SUMMARY OF QUANTITIES
STANDARD APPROVED:	Sheet No. 205 Of 681 Sheets

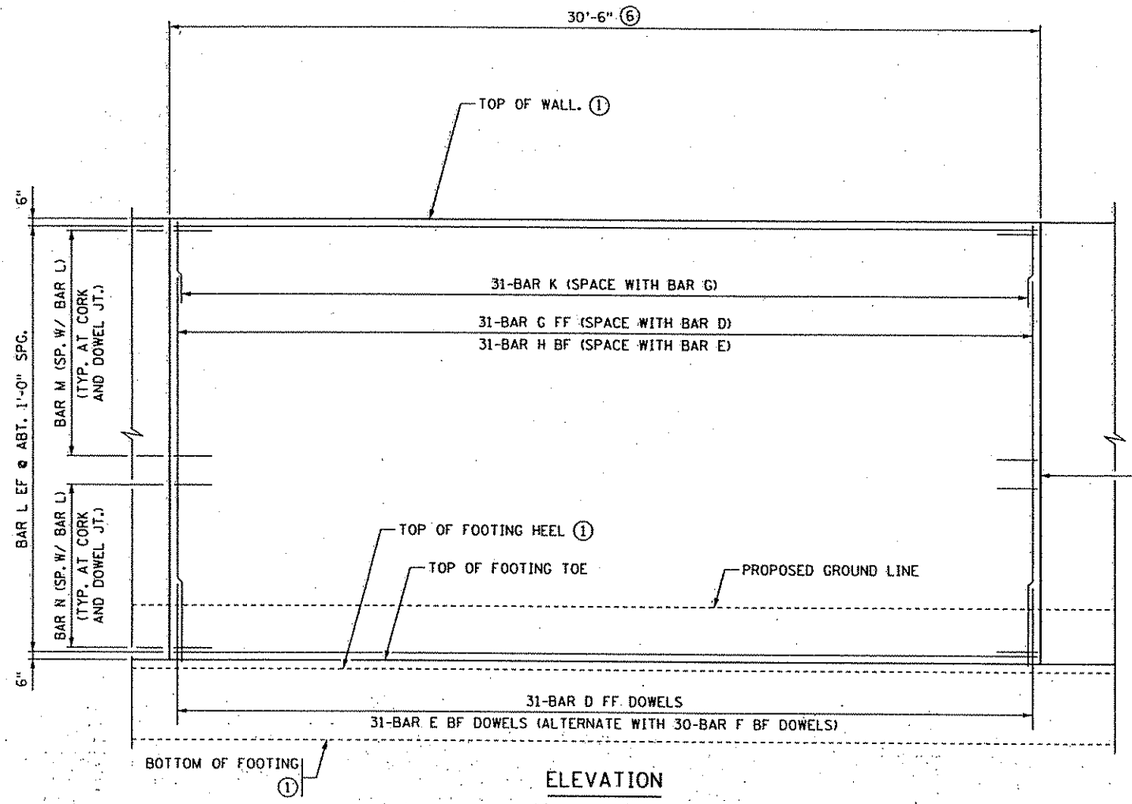
S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

1/8/2007 .8 AM \\s07fnt09\nfrastructure\33889\33889042\struct\pin-sht\042-rw...

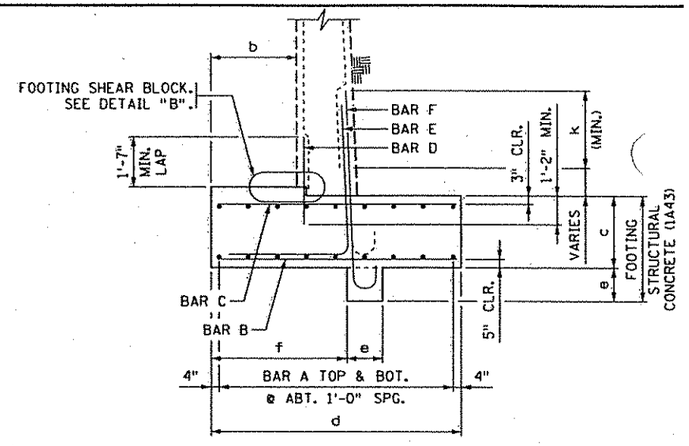


WALL SECTION

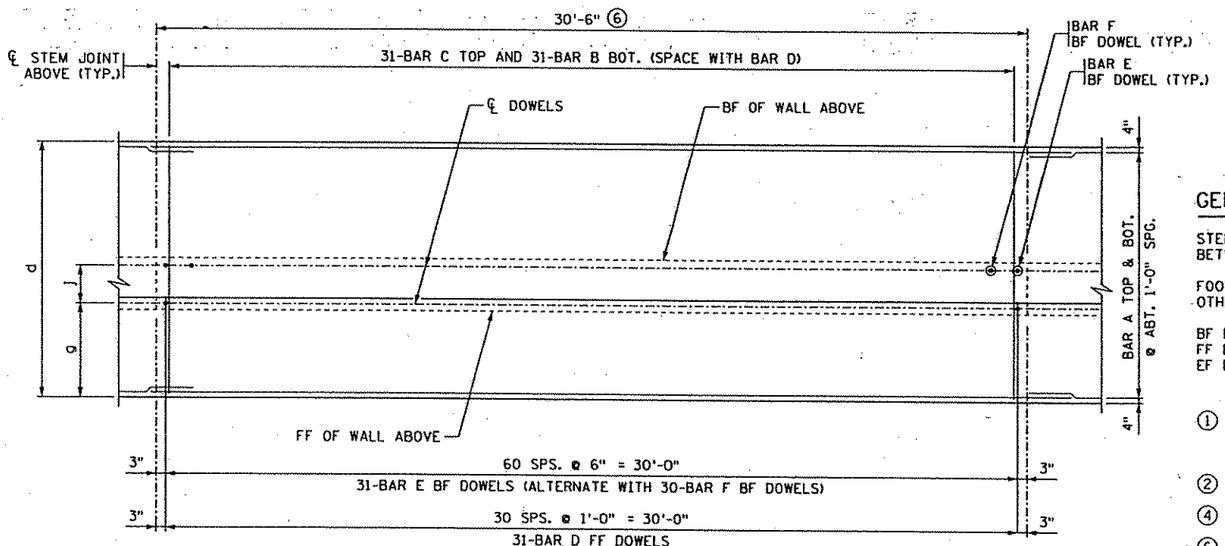
BARRIER OPTION SHOWN



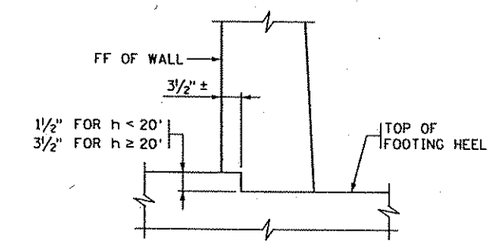
ELEVATION



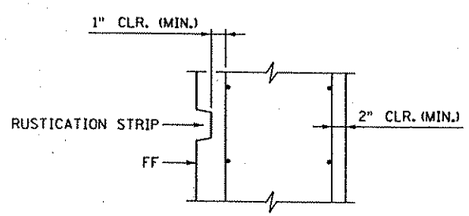
TYPICAL SECTION THROUGH SPREAD FOOTING



FOOTING PLAN ~ REINFORCEMENT



DETAIL "B"



DETAIL "C"

FOR WALLS WITH RUSTICATION OVER 1" IN DEPTH, INCREASE STEM THICKNESS ACCORDINGLY

GENERAL NOTES

STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS.

FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED. SEE RETAINING WALL TABLES FOR LAYOUT.

BF DENOTES BACK FACE.
FF DENOTES FRONT FACE.
EF DENOTES EACH FACE.

1. STRAIGHT LINE BETWEEN ELEVATIONS SHOWN ON WALL ELEVATION (EXCEPT FOR STEPPED CONDITIONS). IF A BARRIER IS NOT USED, TOPS OF RETAINING WALL COULD BE USED.
2. TYPE I DRAIN. SEE DETAIL "A" ON SHEET MISCELLANEOUS DETAILS I.
4. SEE SHEET MISCELLANEOUS DETAILS I.
6. AT THE CONTRACTOR'S OPTION, PANEL LENGTHS MAY VARY UP TO ±1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY BY THE CONTRACTOR.

REVISION: 12-14-99

APPROVED: MARCH 14, 1996

STATE BRIDGE ENGINEER

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

FIG. 5-395.202

CERTIFIED BY David D. Long — DAVID D. LONG

REG. NO. 24384 — JANUARY 8, 2007

TITLE: WALL REINFORCEMENT (PANELS 5, 21-25) MEDIUM WALLS

DES: DDL — DR: DM — APPROVED:

CHK: DJV — CHK: DJV

SHEET NO. 206 OF 681 SHEETS

RETAINING WALLS 6&7

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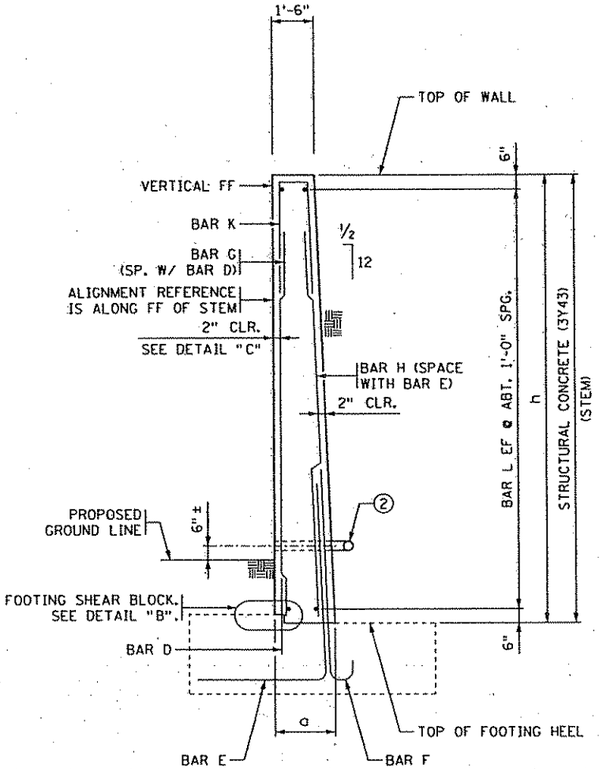
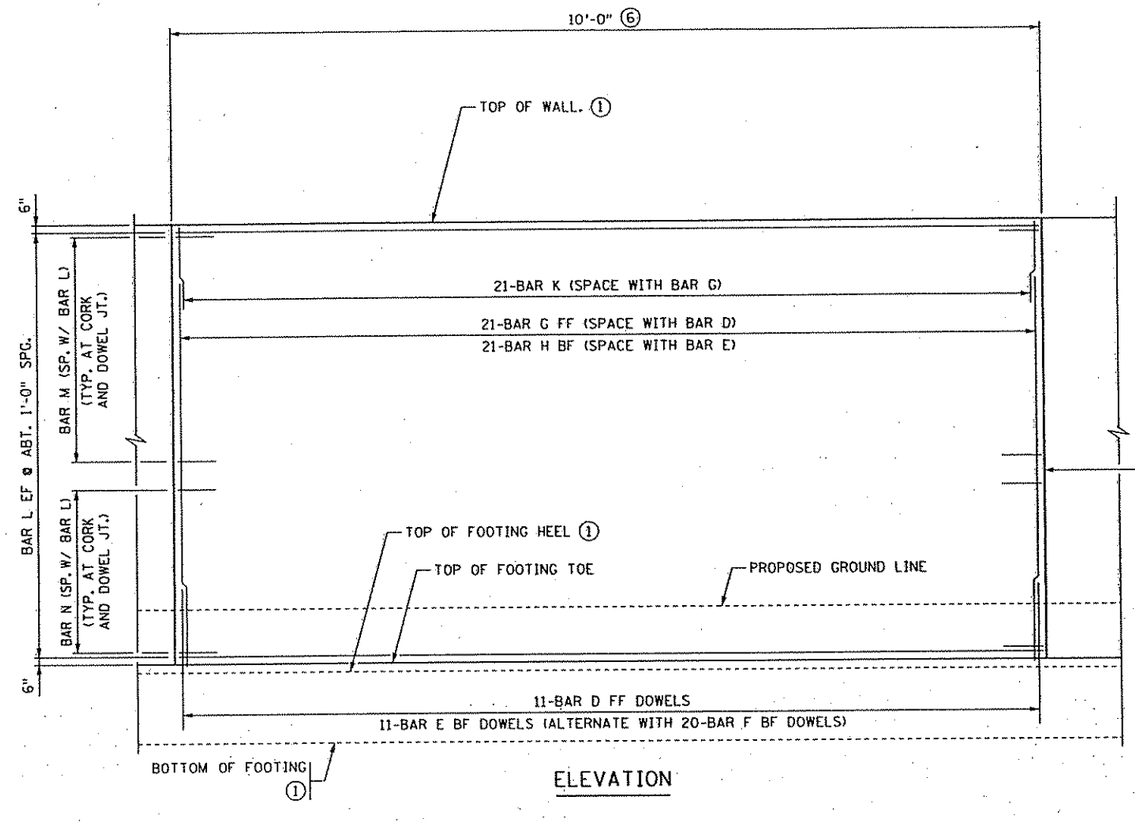
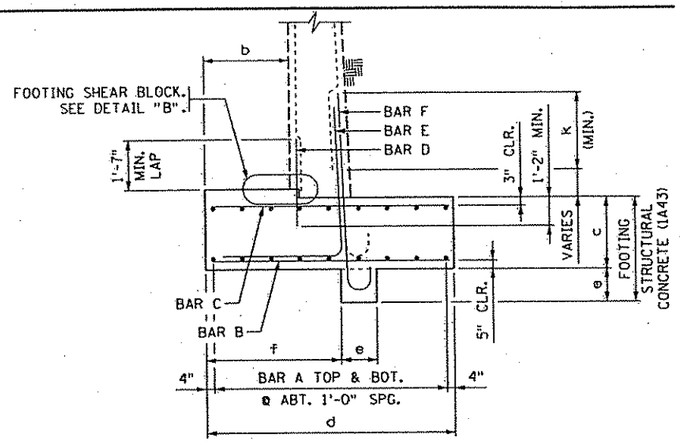


WALL SECTION

BARRIER OPTION SHOWN

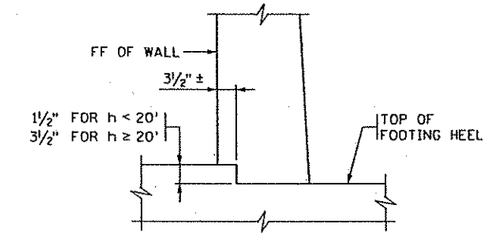


ELEVATION

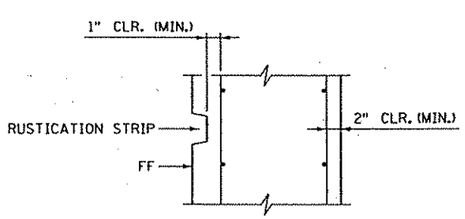


TYPICAL SECTION THROUGH SPREAD FOOTING

℄ ½" CORK AND DOWEL JOINT OR CONSTRUCTION JOINT (TYP.)

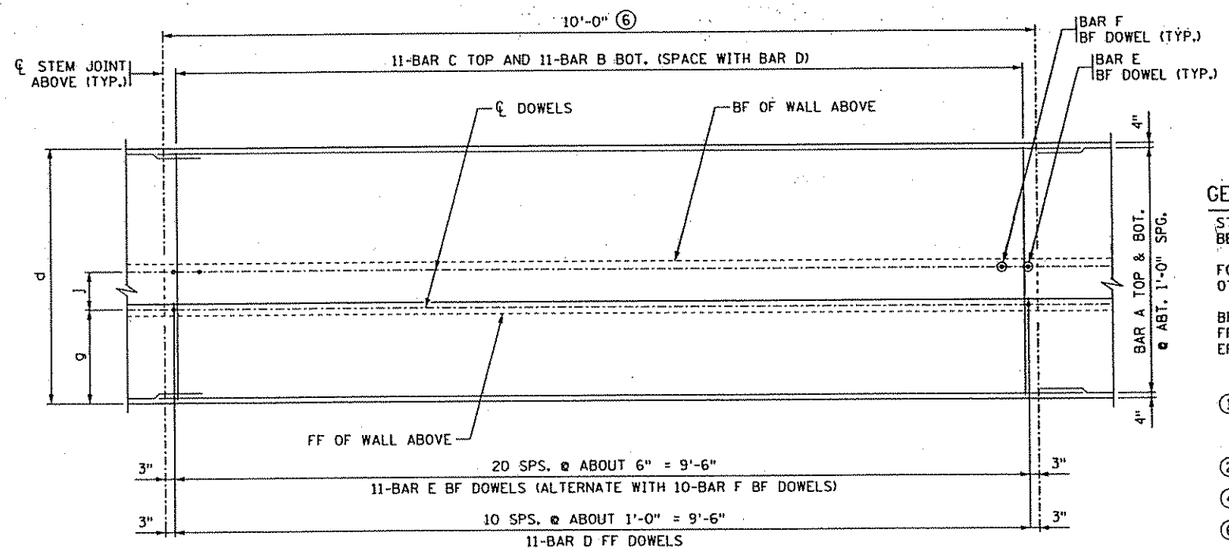


DETAIL "B"



DETAIL "C"

FOR WALLS WITH RUSTICATION OVER 1" IN DEPTH, INCREASE STEM THICKNESS ACCORDINGLY



FOOTING PLAN ~ REINFORCEMENT

GENERAL NOTES

STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS.

FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED. SEE RETAINING WALL TABLES FOR LAYOUT.

BF DENOTES BACK FACE.
FF DENOTES FRONT FACE.
EF DENOTES EACH FACE.

① STRAIGHT LINE BETWEEN ELEVATIONS SHOWN ON WALL ELEVATION (EXCEPT FOR STEPPED CONDITIONS). IF A BARRIER IS NOT USED, TOPS OF RETAINING WALL COULD BE USED.

② TYPE I DRAIN. SEE DETAIL "A" ON SHEET MISCELLANEOUS DETAILS I.

④ SEE SHEET MISCELLANEOUS DETAILS I.

⑥ AT THE CONTRACTOR'S OPTION, PANEL LENGTH MAY VARY UP TO ±1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY BY THE CONTRACTOR.

REVISION: 12-14-99

APPROVED: MARCH 14, 1996
Donald J. Hemming
STATE BRIDGE ENGINEER

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

CERTIFIED BY David D. Long
DAVID D. LONG
REG. NO. 24384 JANUARY 8, 2007

TITLE: WALL REINFORCEMENT (PANEL 20)
MEDIUM WALLS

DES: DDL	DR: DM	APPROVED:
CHK: DJV	CHK: DJV	

SHEET NO. 207 OF 681 SHEETS

FIG. 5-395.202

RETAINING WALL 7

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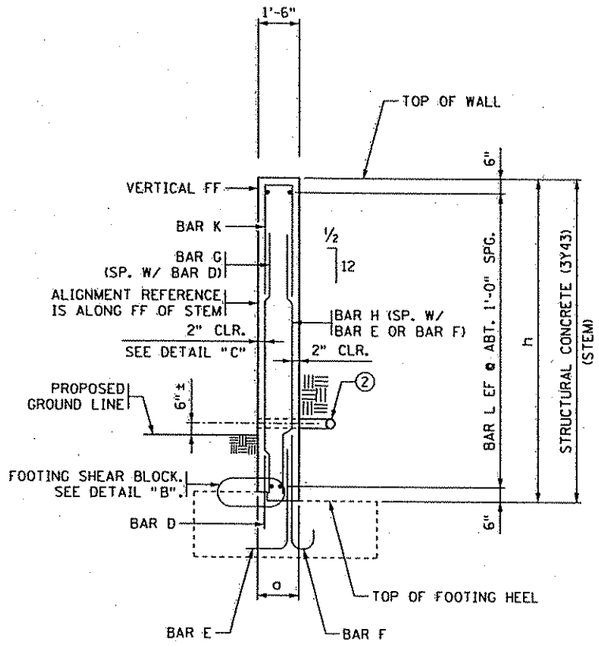
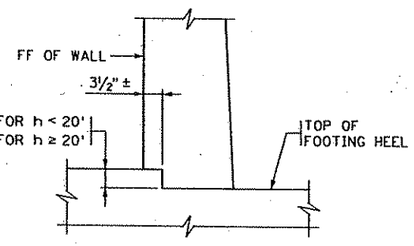
1/8/2007

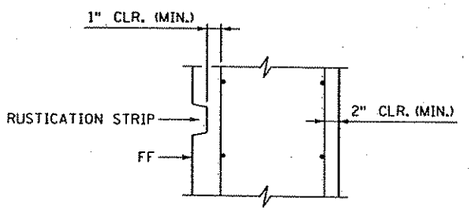


WALL SECTION

BARRIER OPTION SHOWN

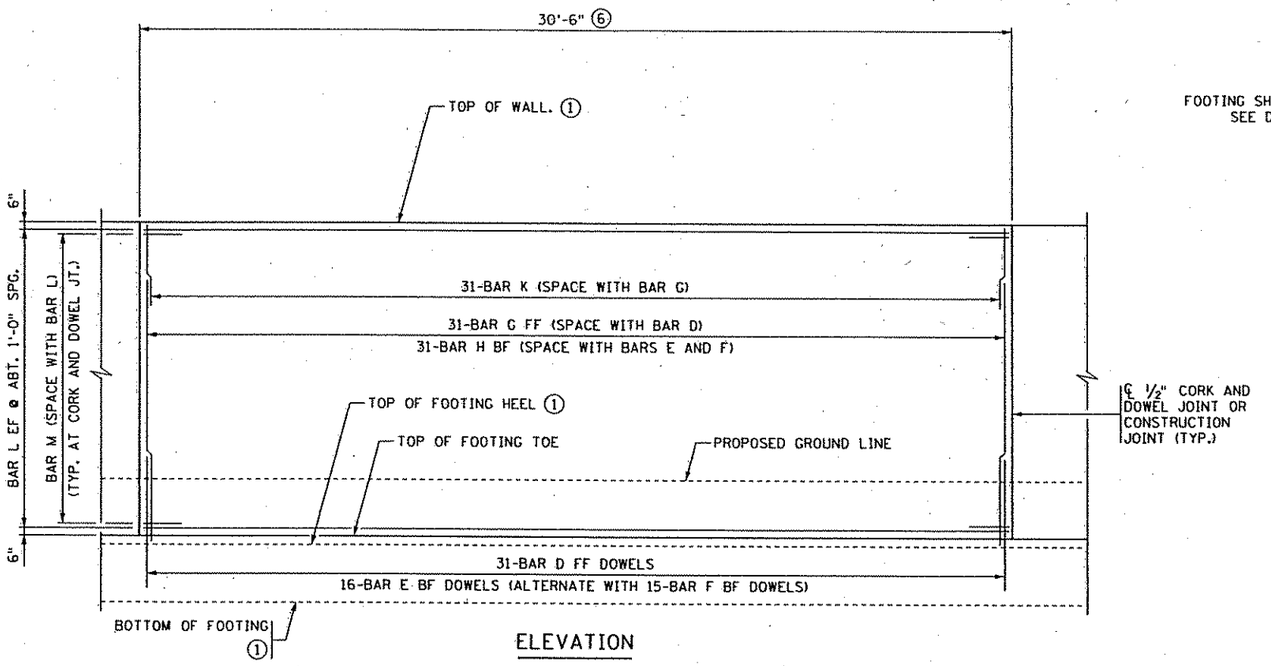


DETAIL "B"

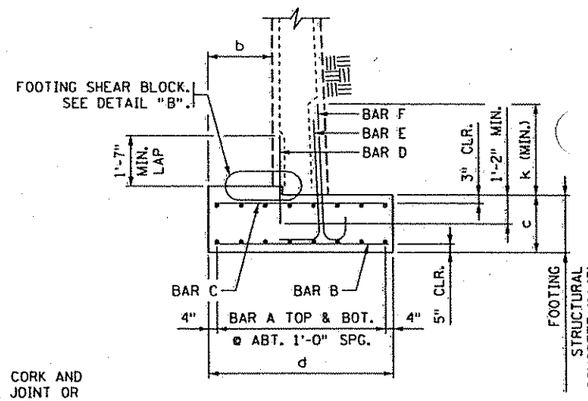


DETAIL "C"

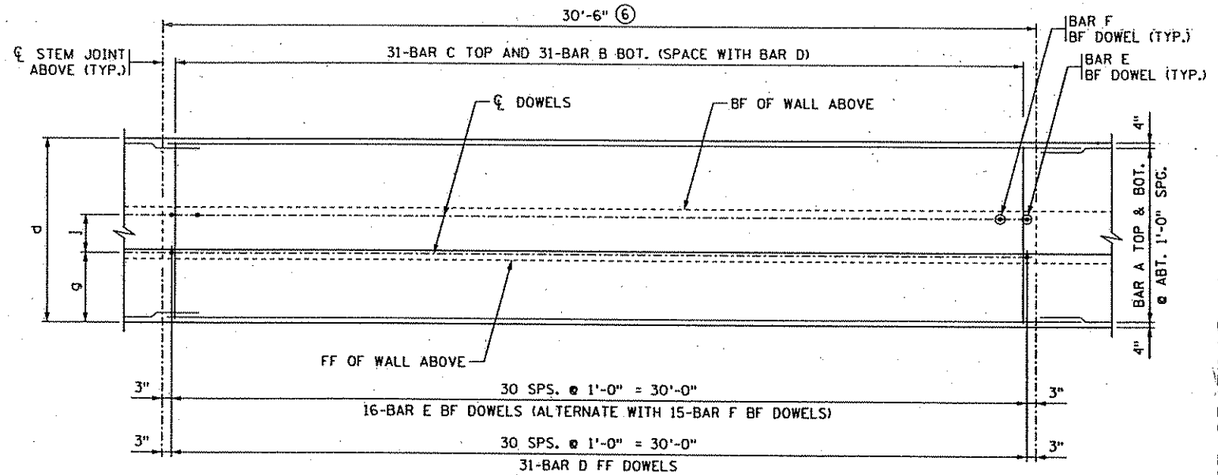
FOR WALLS WITH RUSTICATION OVER 1"
IN DEPTH, INCREASE STEM THICKNESS ACCORDINGLY



ELEVATION



TYPICAL SECTION THROUGH SPREAD FOOTING



FOOTING PLAN ~ REINFORCEMENT

GENERAL NOTES

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EF DENOTES EACH FACE.

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④ SEE SHEET MISCELLANEOUS DETAILS I.

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REVISION: 12-14-99

APPROVED: MARCH 14, 1996
Donald J. Fleming
STATE BRIDGE ENGINEER

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

FIG. 5-395.201

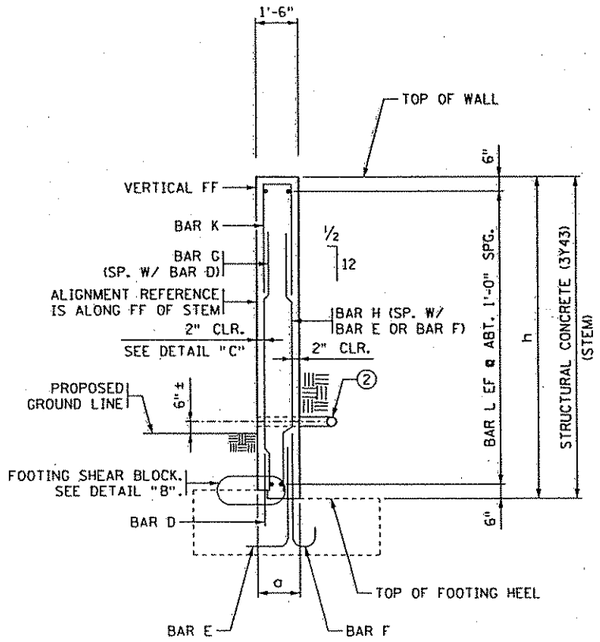
CERTIFIED BY David D Long
DAVID D. LONG
REG. NO. 24384 JANUARY 8, 2007

TITLE: WALL REINFORCEMENT (PANELS 2-4, 6, 26-30) SHORT WALLS

DES: DDL DR: DM APPROVED:
CHK: DJV CHK: DJV

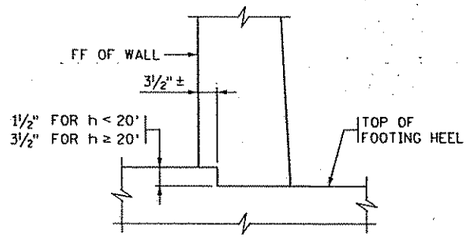
SHEET NO. 208 OF 681 SHEETS

RETAINING WALLS 6&7

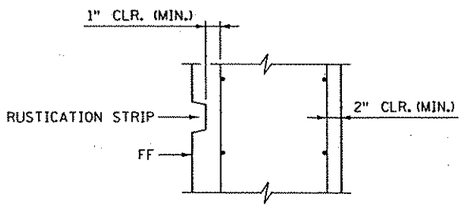


WALL SECTION

BARRIER OPTION SHOWN

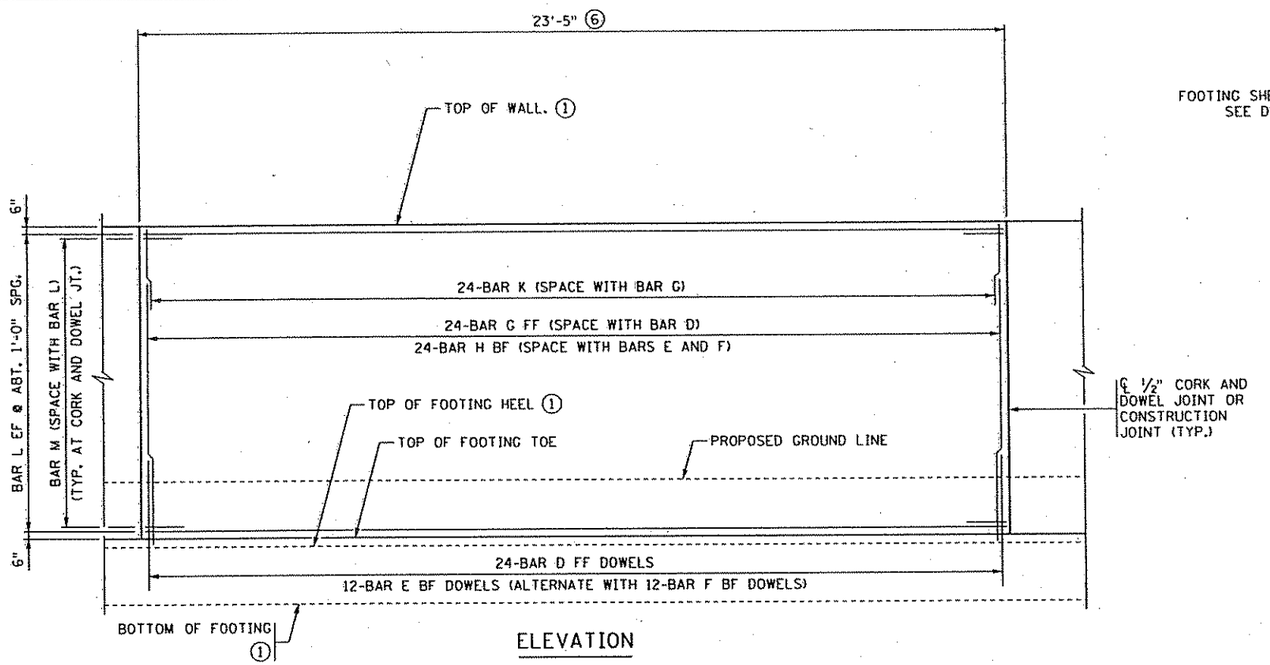


DETAIL "B"

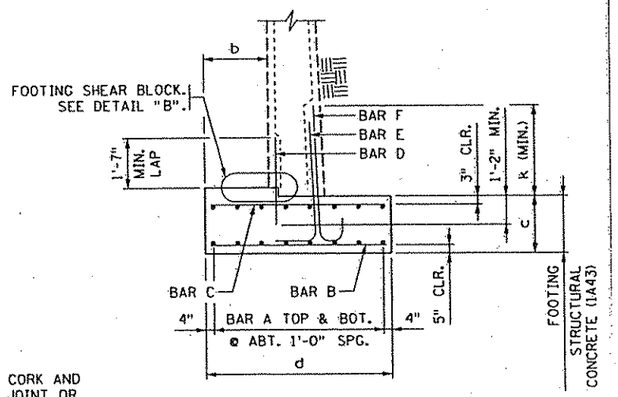


DETAIL "C"

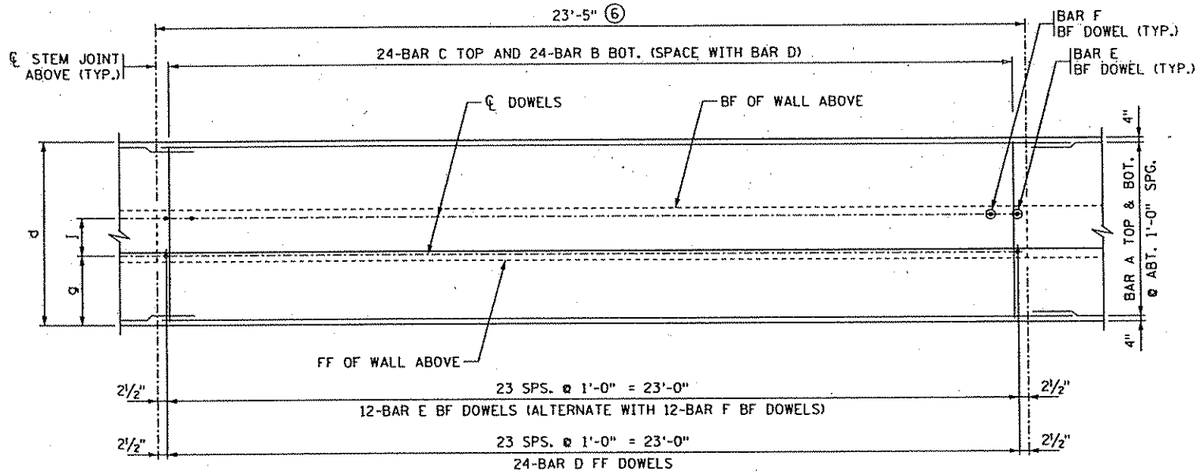
FOR WALLS WITH RUSTICATION OVER 1"
IN DEPTH, INCREASE STEM THICKNESS ACCORDINGLY



ELEVATION



TYPICAL SECTION THROUGH SPREAD FOOTING



FOOTING PLAN ~ REINFORCEMENT

GENERAL NOTES

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REVISION: 12-14-99

APPROVED: MARCH 14, 1996
Donald J. Fleming
STATE BRIDGE ENGINEER

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

CERTIFIED BY David D Long
DAVID D. LONG
REG. NO. 24384 JANUARY 8, 2007

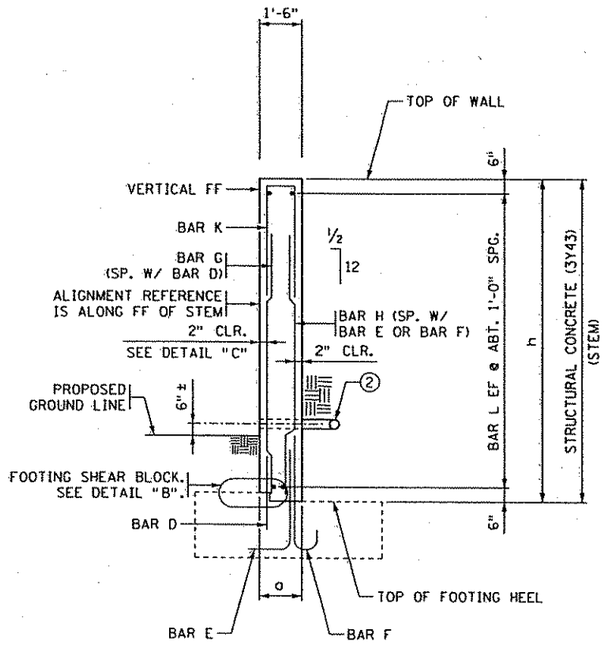
TITLE: WALL REINFORCEMENT (PANEL 1) SHORT WALLS

DES: DDL	DR: DM	APPROVED:
CHK: DJV	CHK: DJV	

SHEET NO. 209 OF 681 SHEETS

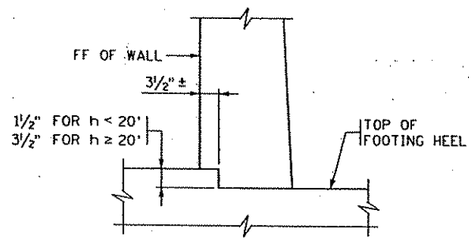
FIG. 5-395.201

RETAINING WALL 6

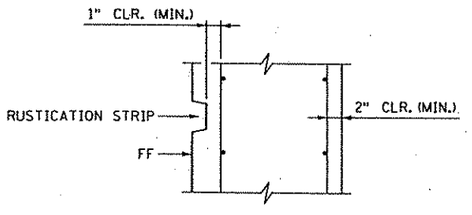


WALL SECTION

BARRIER OPTION SHOWN

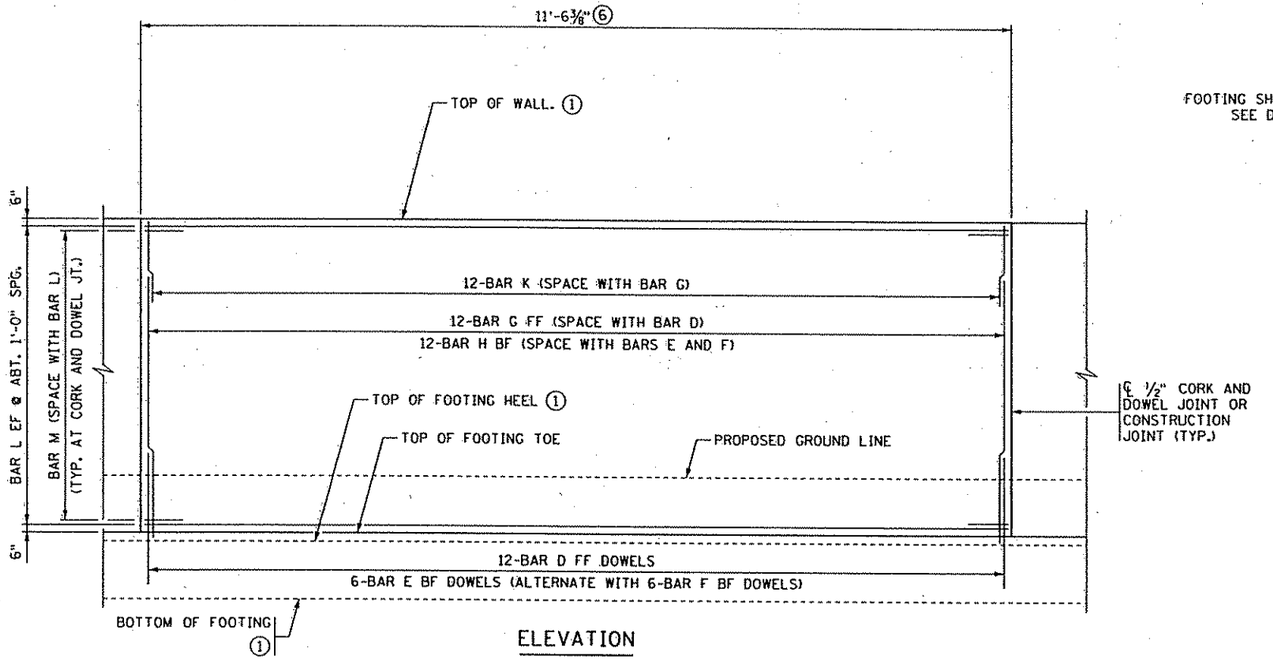


DETAIL "B"

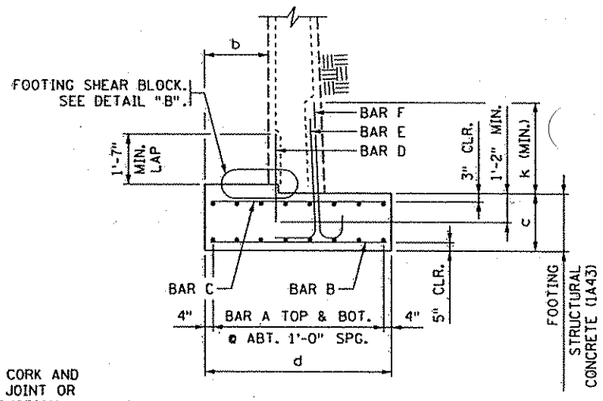


DETAIL "C"

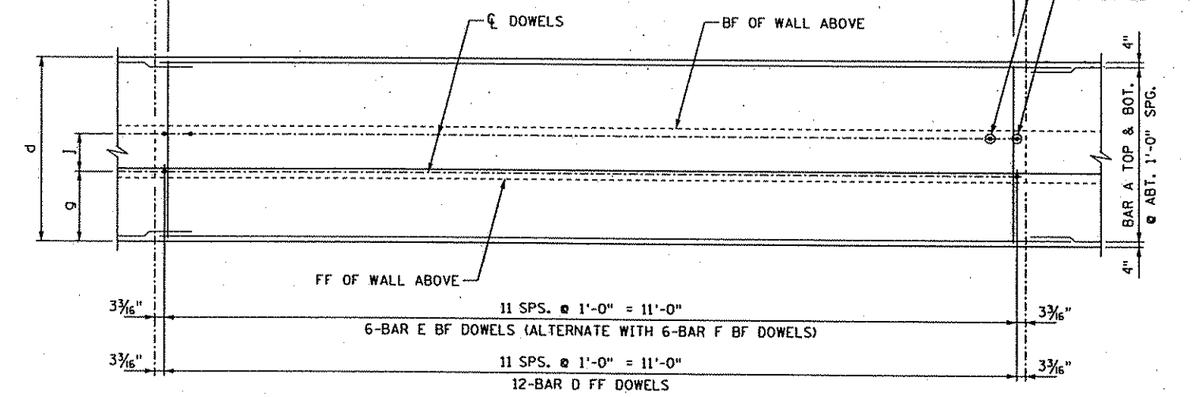
FOR WALLS WITH RUSTICATION OVER 1"
IN DEPTH, INCREASE STEM THICKNESS ACCORDINGLY



ELEVATION



TYPICAL SECTION THROUGH SPREAD FOOTING



FOOTING PLAN ~ REINFORCEMENT

GENERAL NOTES

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REVISION: 12-14-99

APPROVED: MARCH 14, 1996
Donald J. Flemming
STATE BRIDGE ENGINEER

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

FIG. 5-395.201

CERTIFIED BY David D Long
DAVID D. LONG
REG. NO. 24384
JANUARY 8, 2007

TITLE: WALL REINFORCEMENT (PANEL 7)
SHORT WALLS

DES: DDL	DR: DM	APPROVED:
CHK: DJV	CHK: DJV	

SHEET NO. 210 OF 681 SHEETS

RETAINING WALL 6

h = 6' PANELS: 1 L=23'-5"

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
SPREAD FOOTING REINFORCEMENT						
A	F501	8	25'-11"	STR.	LONG T & B	216
B	F502	31	3'-6"	STR.	TRANS BOT	113
C	F503	31	3'-6"	STR.	TRANS TOP	113
FOOTING DOWELS & STEM REINFORCEMENT						
D	F504E	24	3'-0"	STR.	DOWEL FF	75
E	F505E	12	4'-1"	0'-10"	DOWEL BF	51
F	F506E	12	4'-3"	3'-3"	DOWEL BF	53
G	S401E	24	4'-10"	STR.	VERT FF	77
H	S502E	24	4'-10"	STR.	VERT BF	121
J	S 03E	—	—	STR.	VERT BF	—
K	S504E	24	7'-1"	3'-0"	TIE	177
L	S405E	12	23'-0"	STR.	HORIZ EF	184
M	S506E	12	7'-4"	1'-4"	EXP JT TIE	92
N	S507E	—	7'-9"	1'-9"	EXP JT TIE	—
P	S508E	—	8'-2"	2'-2"	EXP JT TIE	—
Q	S509E	—	8'-7"	4'-0"	RAIL DOWEL	—
Q	S509E	—	6'-0"	2'-8"	J-RAIL DOWEL	—

DIMENSIONS			
SPREAD FOOTING			
b	1'-2"	e	—
c	1'-3"	f	—
d	4'-0"	g	1'-4 5/16"
STEM			
a	1'-9"	k	2'-0"
j	1'-4 3/8"		

QUANTITIES		
STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	4.5	CY
PILE		CY
STRUCTURE CONCRETE (3Y43) (STEM)		
	8.5	CY
REINFORCEMENT (PLAIN)		
SPREAD	501	LB
PILE		LB
REINFORCEMENT (EPOXY)		
	830	LB

h = 6' PANELS: 30 L=30'-6"

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
SPREAD FOOTING REINFORCEMENT						
A	F501	8	32'-11"	STR.	LONG T & B	274
B	F502	31	3'-6"	STR.	TRANS BOT	113
C	F503	31	3'-6"	STR.	TRANS TOP	113
FOOTING DOWELS & STEM REINFORCEMENT						
D	F504E	31	3'-0"	STR.	DOWEL FF	97
E	F505E	16	4'-1"	0'-10"	DOWEL BF	68
F	F506E	15	4'-3"	3'-3"	DOWEL BF	66
G	S401E	31	4'-10"	STR.	VERT FF	100
H	S502E	31	4'-10"	STR.	VERT BF	156
J	S 03E	—	—	STR.	VERT BF	—
K	S504E	31	7'-1"	3'-0"	TIE	229
L	S405E	12	30'-0"	STR.	HORIZ EF	240
M	S506E	12	7'-4"	1'-4"	EXP JT TIE	92
N	S507E	—	7'-9"	1'-9"	EXP JT TIE	—
P	S508E	—	8'-2"	2'-2"	EXP JT TIE	—
Q	S509E	—	8'-7"	4'-0"	RAIL DOWEL	—
Q	S509E	—	6'-0"	2'-8"	J-RAIL DOWEL	—

DIMENSIONS			
SPREAD FOOTING			
b	1'-2"	e	—
c	1'-3"	f	—
d	4'-0"	g	1'-4 5/16"
STEM			
a	1'-9"	k	2'-0"
j	1'-4 3/8"		

QUANTITIES		
STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	5.9	CY
PILE		CY
STRUCTURE CONCRETE (3Y43) (STEM)		
	11.1	CY
REINFORCEMENT (PLAIN)		
SPREAD	500	LB
PILE		LB
REINFORCEMENT (EPOXY)		
	1048	LB

h = 7' PANELS: 2 & 29 L=30'-6"

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
SPREAD FOOTING REINFORCEMENT						
A	F501	10	32'-11"	STR.	LONG T & B	343
B	F502	31	4'-0"	STR.	TRANS BOT	129
C	F503	31	4'-0"	STR.	TRANS TOP	129
FOOTING DOWELS & STEM REINFORCEMENT						
D	F504E	31	3'-0"	STR.	DOWEL FF	97
E	F505E	16	4'-1"	0'-10"	DOWEL BF	68
F	F506E	15	4'-3"	3'-3"	DOWEL BF	66
G	S401E	31	5'-8"	STR.	VERT FF	118
H	S502E	31	5'-8"	STR.	VERT BF	184
J	S 03E	—	—	STR.	VERT BF	—
K	S504E	31	7'-1"	3'-0"	TIE	229
L	S405E	14	30'-0"	STR.	HORIZ EF	281
M	S506E	14	7'-4"	1'-4"	EXP JT TIE	107
N	S507E	—	7'-9"	1'-9"	EXP JT TIE	—
P	S508E	—	8'-2"	2'-2"	EXP JT TIE	—
Q	S509E	—	8'-7"	4'-0"	RAIL DOWEL	—
Q	S509E	—	6'-0"	2'-8"	J-RAIL DOWEL	—

DIMENSIONS			
SPREAD FOOTING			
b	1'-4"	e	—
c	1'-3"	f	—
d	4'-6"	g	1'-6 5/16"
STEM			
a	1'-9 1/2"	k	2'-0"
j	1'-4 7/8"		

QUANTITIES		
STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	6.6	CY
PILE		CY
STRUCTURE CONCRETE (3Y43) (STEM)		
	13.0	CY
REINFORCEMENT (PLAIN)		
SPREAD	601	LB
PILE		LB
REINFORCEMENT (EPOXY)		
	1150	LB

h = 8' PANELS: 28 L=30'-6"

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
SPREAD FOOTING REINFORCEMENT						
A	F501	10	32'-11"	STR.	LONG T & B	343
B	F502	31	4'-6"	STR.	TRANS BOT	145
C	F503	31	4'-6"	STR.	TRANS TOP	145
T	F510	12	5'-9"	1'-9"	TIE @ STEP	72
FOOTING DOWELS & STEM REINFORCEMENT						
D	F504E	31	3'-0"	STR.	DOWEL FF	97
E	F505E	16	4'-1"	0'-10"	DOWEL BF	68
F	F506E	15	4'-3"	3'-3"	DOWEL BF	66
G	S401E	31	6'-4"	STR.	VERT FF	132
H	S502E	31	6'-4"	STR.	VERT BF	202
J	S 03E	—	—	STR.	VERT BF	—
K	S504E	31	7'-1"	3'-0"	TIE	229
L	S405E	16	30'-0"	STR.	HORIZ EF	321
M	S506E	16	7'-4"	1'-4"	EXP JT TIE	122
N	S507E	—	7'-9"	1'-9"	EXP JT TIE	—
P	S508E	—	8'-2"	2'-2"	EXP JT TIE	—
Q	S509E	—	8'-7"	4'-0"	RAIL DOWEL	—
Q	S509E	—	6'-0"	2'-8"	J-RAIL DOWEL	—

DIMENSIONS			
SPREAD FOOTING			
b	1'-6"	e	—
c	1'-3"	f	—
d	5'-0"	g	1'-8 5/16"
STEM			
a	1'-10"	k	2'-0"
j	1'-5 3/8"		

QUANTITIES		
STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	7.3	CY
PILE		CY
STRUCTURE CONCRETE (3Y43) (STEM)		
	15.0	CY
REINFORCEMENT (PLAIN)		
SPREAD	705	LB
PILE		LB
REINFORCEMENT (EPOXY)		
	1237	LB

h = 8' PANELS: 4,6 & 27 L=30'-6"

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
SPREAD FOOTING REINFORCEMENT						
A	F501	10	32'-11"	STR.	LONG T & B	343
B	F502	31	4'-6"	STR.	TRANS BOT	145
C	F503	31	4'-6"	STR.	TRANS TOP	145
FOOTING DOWELS & STEM REINFORCEMENT						
D	F504E	31	3'-0"	STR.	DOWEL FF	97
E	F505E	16	4'-1"	0'-10"	DOWEL BF	68
F	F506E	15	4'-3"	3'-3"	DOWEL BF	66
G	S401E	31	6'-4"	STR.	VERT FF	132
H	S502E	31	6'-4"	STR.	VERT BF	202
J	S 03E	—	—	STR.	VERT BF	—
K	S504E	31	7'-1"	3'-0"	TIE	229
L	S405E	16	30'-0"	STR.	HORIZ EF	321
M	S506E	16	7'-4"	1'-4"	EXP JT TIE	122
N	S507E	—	7'-9"	1'-9"	EXP JT TIE	—
P	S508E	—	8'-2"	2'-2"	EXP JT TIE	—
Q	S509E	—	8'-7"	4'-0"	RAIL DOWEL	—
Q	S509E	—	6'-0"	2'-8"	J-RAIL DOWEL	—

DIMENSIONS			
SPREAD FOOTING			
b	1'-6"	e	—
c	1'-3"	f	—
d	5'-0"	g	1'-8 5/16"
STEM			
a	1'-10"	k	2'-0"
j	1'-5 3/8"		

QUANTITIES		
STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	7.3	CY
PILE		CY
STRUCTURE CONCRETE (3Y43) (STEM)		
	15.0	CY
REINFORCEMENT (PLAIN)		
SPREAD	633	LB
PILE		LB
REINFORCEMENT (EPOXY)		
	1237	LB

h = 9' PANELS: 3 L=30'-6"

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
SPREAD FOOTING REINFORCEMENT						
A	F501	12	32'-11"	STR.	LONG T & B	412
B	F502	35	5'-0"	STR.	TRANS BOT	183
C	F503	35	5'-0"	STR.	TRANS TOP	183
R	F510	12	5'-9"	1'-9"	TIE @ STEP	72
FOOTING DOWELS & STEM REINFORCEMENT						
D	F504E	31	3'-0"	STR.	DOWEL FF	97
E	F505E	16	4'-4"	0'-10"	DOWEL BF	72
F	F506E	15	4'-6"	3'-6"	DOWEL BF	70
G	S401E	31	7'-0"	STR.	VERT FF	145
H	S502E	31	7'-0"	STR.	VERT BF	226
J	S 03E	—	—	STR.	VERT BF	—
K	S504E	31	7'-1"	3'-0"	TIE	229
L	S405E	18	30'-0"	STR.	HORIZ EF	361
M	S506E	18	7'-4"	1'-4"	EXP JT TIE	138
N	S507E	—	7'-9"	1'-9"	EXP JT TIE	—
P	S508E	—	8'-2"	2'-2"	EXP JT TIE	—
Q	S509E	—	8'-7"	4'-0"	RAIL DOWEL	—
Q	S509E	—	6'-0"	2'-8"	J-RAIL DOWEL	—

DIMENSIONS			
SPREAD FOOTING			
b	1'-8"	e	—
c	1'-3"	f	—
d	5'-6"	g	1'-10 5/16"
STEM			
a	1'-10 1/2"	k	2'-0"
j	1'-5 7/8"		

QUANTITIES		
STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	8.0	CY
PILE		CY
STRUCTURE CONCRETE (3Y43) (STEM)		
	17.2	CY
REINFORCEMENT (PLAIN)		
SPREAD	850	LB
PILE		LB
REINFORCEMENT (EPOXY)		
	1338	LB

h = 9' PANELS: 26 L=30'-6"

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
SPREAD FOOTING REINFORCEMENT						
A	F501	12	32'-11"	STR.	LONG T & B	412
B	F502	31	5'-0"	STR.	TRANS BOT	162
C	F503	31	5'-0"	STR.	TRANS TOP	162
FOOTING DOWELS & STEM REINFORCEMENT						
D	F504E	31	3'-0"	STR.	DOWEL FF	97
E	F505E	16	4'-4"	0'-10"	DOWEL BF	72
F	F506E	15	4'-6"	3'-6"	DOWEL BF	70
G	S401E	31	7'-9"	STR.	VERT FF	160
H	S502E	31	7'-9"	STR.	VERT BF	250
J	S 03E	—	—	STR.	VERT BF	—
K	S504E	31	7'-1"	3'-0"	TIE	229
L	S405E	18	30'-0"	STR.	HORIZ EF	361
M	S506E	18	7'-4"	1'-4"	EXP JT TIE	138
N	S507E	—	7'-9"	1'-9"	EXP JT TIE	—
P	S508E	—	8'-2"	2'-2"	EXP JT TIE	—
Q	S509E	—	8'-7"	4'-0"	RAIL DOWEL	—
Q	S509E	—	6'-0"	2'-8"	J-RAIL DOWEL	—

DIMENSIONS			
SPREAD FOOTING			
b	1'-8"	e	—
c	1'-3"	f	—
d	5'-6"	g	1'-10 5/16"
STEM			
a	1'-10 1/2"	k	2'-0"
j	1'-5 7/8"		

QUANTITIES		
(FOOTING)		
SPREAD	8.0	CY
PILE		CY
STRUCTURE CONCRETE (3Y43) (STEM)		
	17.2	CY
REINFORCEMENT (PLAIN)		
SPREAD	736	LB
PILE		LB
REINFORCEMENT (EPOXY)		
	1377	LB

h = 8' PANELS: 7 L= 11'-6 3/8"

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
SPREAD FOOTING REINFORCEMENT						
A	F501	10	13'-11"	STR.	LONG T & B	145
B	F502	12	4'-0"	STR.	TRANS BOT	50
C	F503	12	4'-0"	STR.	TRANS TOP	50
FOOTING DOWELS & STEM REINFORCEMENT						
D	F504E	12	3'-0"	STR.	DOWEL FF	38
E	F505E	6	4'-1"	0'-10"	DOWEL BF	26
F	F506E	6	4'-3"	3'-3"	DOWEL BF	27
G	S401E	12	6'-10"	STR.	VERT FF	55
H	S502E	12	6'-10"	STR.	VERT BF	85
J	S 03E	—	—	STR.	VERT BF	—
K	S504E	12	7'-1"	3'-0"	TIE	89
L	S405E	16	11'-0"	STR.	HORIZ EF	118
M	S506E	16	7'-4"	1'-4"	EXP JT TIE	122
N	S507E	—	7'-9"	1'-9"	EXP JT TIE	—
P	S508E	—	8'-2"	2'-2"	EXP JT TIE	—
Q	S509E	—	8'-7"	4'-0"	RAIL DOWEL	—
Q	S509E	—	6'-0"	2'-8"	J-RAIL DOWEL	—

DIMENSIONS			
SPREAD FOOTING			
b	1'-6"	e	—
c	1'-3"	f	—
d	5'-0"	g	1'-8 5/16"
STEM			
a		k	
j			

QUANTITIES		
STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	2.8	CY
PILE		CY
STRUCTURE CONCRETE (3Y43) (STEM)		
	5.7	CY
REINFORCEMENT (PLAIN)		
SPREAD	245	LB
PILE		LB
REINFORCEMENT (EPOXY)		
	560	LB

NOTES:
L = PANEL LENGTH
F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE
BARS MARKED WITH THE SUFFIX "E" ARE EPOXY COATED.
DESIGNERS SHALL CROSS OFF ENTRIES WHICH DO NOT APPLY.

APPROVED: MARCH 14, 1996
STATE BRIDGE ENGINEER

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

STANDARD SHEET NO. FIG. 5-395.208 (1 OF 4)
STANDARD APPROVED:

TITLE: PANEL TABULATIONS (2' - LIVE LOAD SURCHARGE)

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h = 10' PANELS: 5 L=30'-6"

SPREAD FOOTING REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
A	F501	12	32'-11"	STR.	LONG T & B	412
B	F502	35	5'-6"	STR.	TRANS BOT	201
C	F503	35	5'-6"	STR.	TRANS TOP	201
S	F510	12	7'-3"	3'-3"	TIE @ STEP	91

DIMENSIONS — SPREAD FOOTING

b	1'-9"	e	——
c	1'-3"	f	——
d	6'-0"	g	1'-11 5/16"

STEM

a	1'-11"	k	2'-6"
j	1'-6 3/8"		

FOOTING DOWELS & STEM REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
D	F504E	31	3'-0"	STR.	DOWEL FF	97
E	F505E	31	4'-10"	0'-10"	DOWEL BF	156
F	F506E	30	5'-0"	4'-0"	DOWEL BF	156
G	S401E	31	7'-1"	STR.	VERT FF	147
H	S502E	31	7'-1"	STR.	VERT BF	229
J	S 03E	——	——	STR.	VERT BF	——
K	S504E	31	10'-7"	4'-9"	TIE	342
L	S405E	20	30'-0"	STR.	HORIZ EF	401
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153
N	S507E	——	7'-9"	1'-9"	EXP JT TIE	——
P	S508E	——	8'-2"	2'-2"	EXP JT TIE	——
Q	S509E	——	8'-7"	4'-0"	RAIL DOWEL	——
Q	S509E	——	6'-0"	2'-8"	J-RAIL DOWEL	——

QUANTITIES

STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	9.3	CY
PILE		CY
STRUCTURE CONCRETE (3Y43) (STEM)	19.3	CY
REINFORCEMENT (PLAIN)		
SPREAD	905	LB
PILE		LB
REINFORCEMENT (EPOXY)	1681	LB

h = 11' PANELS: 25 L=30'-6"

SPREAD FOOTING REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
A	F501	14	32'-11"	STR.	LONG T & B	481
B	F602	31	6'-0"	STR.	TRANS BOT	279
C	F503	31	6'-0"	STR.	TRANS TOP	194

DIMENSIONS — SPREAD FOOTING

b	2'-0"	e	——
c	1'-3"	f	——
d	6'-6"	g	2'-2 5/16"

STEM

a	1'-11 1/2"	k	2'-6"
j	1'-6 7/8"		

FOOTING DOWELS & STEM REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
D	F504E	31	3'-0"	STR.	DOWEL FF	97
E	F505E	31	5'-7"	0'-10"	DOWEL BF	181
F	F506E	30	5'-9"	4'-9"	DOWEL BF	180
G	S401E	31	8'-1"	STR.	VERT FF	167
H	S502E	31	7'-4"	STR.	VERT BF	237
J	S 03E	——	——	STR.	VERT BF	——
K	S504E	31	10'-7"	4'-9"	TIE	342
L	S405E	22	30'-0"	STR.	HORIZ EF	441
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153
N	S507E	2	7'-9"	1'-9"	EXP JT TIE	16
P	S508E	——	8'-2"	2'-2"	EXP JT TIE	——
Q	S509E	——	8'-7"	4'-0"	RAIL DOWEL	——
Q	S509E	——	6'-0"	2'-8"	J-RAIL DOWEL	——

QUANTITIES

STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	9.5	CY
PILE		CY
STRUCTURE CONCRETE (3Y43) (STEM)	21.5	CY
REINFORCEMENT (PLAIN)		
SPREAD	954	LB
PILE		LB
REINFORCEMENT (EPOXY)	1814	LB

h = 12' PANELS: 24 L=30'-6"

SPREAD FOOTING REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
A	F501	14	32'-11"	STR.	LONG T & B	481
B	F702	31	6'-3"	STR.	TRANS BOT	396
C	F503	31	6'-3"	STR.	TRANS TOP	202

DIMENSIONS — SPREAD FOOTING

b	2'-3"	e	1'-0"
c	1'-3"	f	3'-10 5/8"
d	6'-9"	g	2'-5 5/16"

STEM

a	2'-0"	k	2'-6"
j	1'-7 3/8"		

FOOTING DOWELS & STEM REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
D	F504E	31	3'-0"	STR.	DOWEL FF	97
E	F505E	31	6'-10"	0'-10"	DOWEL BF	221
F	F506E	30	7'-3"	6'-3"	DOWEL BF	227
G	S401E	31	9'-1"	STR.	VERT FF	188
H	S502E	31	7'-4"	STR.	VERT BF	237
J	S 03E	——	——	STR.	VERT BF	——
K	S504E	31	10'-7"	4'-9"	TIE	342
L	S405E	24	30'-0"	STR.	HORIZ EF	481
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153
N	S507E	4	7'-9"	1'-9"	EXP JT TIE	32
P	S508E	——	8'-2"	2'-2"	EXP JT TIE	——
Q	S509E	——	8'-7"	4'-0"	RAIL DOWEL	——
Q	S509E	——	6'-0"	2'-8"	J-RAIL DOWEL	——

QUANTITIES

STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	11.0	CY
STRUCTURE CONCRETE (3Y43) (STEM)	23.7	CY
REINFORCEMENT (PLAIN)		
SPREAD	1079	LB
PILE		LB
REINFORCEMENT (EPOXY)	1978	LB

h = 13' PANELS: 21 & 23 L=30'-6"

SPREAD FOOTING REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
A	F501	14	32'-11"	STR.	LONG T & B	481
B	F802	31	6'-6"	STR.	TRANS BOT	538
C	F503	31	6'-6"	STR.	TRANS TOP	210

DIMENSIONS — SPREAD FOOTING

b	2'-6"	e	1'-0"
c	1'-3"	f	4'-[illegible]
d	7'-0"	g	2'-[illegible]

STEM

a	2'-0 1/2"	k	2'-6"
j	1'-7 7/8"		

FOOTING DOWELS & STEM REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
D	F504E	31	3'-0"	STR.	DOWEL FF	97
E	F505E	31	7'-10"	0'-10"	DOWEL BF	253
F	F506E	30	8'-3"	7'-3"	DOWEL BF	258
G	S401E	31	10'-1"	STR.	VERT FF	209
H	S502E	31	7'-4"	STR.	VERT BF	237
J	S 03E	——	——	STR.	VERT BF	——
K	S504E	31	10'-7"	4'-9"	TIE	342
L	S405E	26	30'-0"	STR.	HORIZ EF	521
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153
N	S507E	6	7'-9"	1'-9"	EXP JT TIE	48
P	S508E	——	8'-2"	2'-2"	EXP JT TIE	——
Q	S509E	——	8'-7"	4'-0"	RAIL DOWEL	——
Q	S509E	——	6'-0"	2'-8"	J-RAIL DOWEL	——

QUANTITIES

STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	11.4	CY
STRUCTURE CONCRETE (3Y43) (STEM)	26.0	CY
REINFORCEMENT (PLAIN)		
SPREAD	1229	LB
PILE		LB
REINFORCEMENT (EPOXY)	2118	LB

h = 14' PANELS: 22 L=30'-6"

SPREAD FOOTING REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
A	F501	16	32'-11"	STR.	LONG T & B	549
B	F802	35	6'-6"	STR.	TRANS BOT	607
C	F503	35	6'-6"	STR.	TRANS TOP	237
T	F510	16	6'-9"	2'-9"	TIE @ STEP	112

DIMENSIONS — SPREAD FOOTING

b	2'-6"	e	1'-0"
c	1'-6"	f	4'-5 3/4"
d	7'-8"	g	2'-11 5/16"

STEM

a	2'-1"	k	2'-6"
j	1'-8 3/8"		

FOOTING DOWELS & STEM REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
D	F504E	31	3'-0"	STR.	DOWEL FF	97
E	F505E	31	7'-10"	0'-10"	DOWEL BF	253
F	F506E	30	8'-3"	7'-3"	DOWEL BF	258
G	S401E	31	10'-1"	STR.	VERT FF	209
H	S502E	31	7'-4"	STR.	VERT BF	237
J	S 03E	——	——	STR.	VERT BF	——
K	S504E	31	10'-7"	4'-9"	TIE	342
L	S405E	26	30'-0"	STR.	HORIZ EF	521
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153
N	S507E	6	7'-9"	1'-9"	EXP JT TIE	48
P	S508E	——	8'-2"	2'-2"	EXP JT TIE	——
Q	S509E	——	8'-7"	4'-0"	RAIL DOWEL	——
Q	S509E	——	6'-0"	2'-8"	J-RAIL DOWEL	——

QUANTITIES

STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	12.0	CY
STRUCTURE CONCRETE (3Y43) (STEM)	26.0	CY
REINFORCEMENT (PLAIN)		
SPREAD	1505	LB
PILE		LB
REINFORCEMENT (EPOXY)	2118	LB

h = 16' PANELS: L=30'-6"

SPREAD FOOTING REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
A	F501	18	32'-11"	STR.	LONG T & B	618
B	F602	31	8'-2"	STR.	TRANS BOT	380
C	F503	31	8'-2"	STR.	TRANS TOP	264

DIMENSIONS — SPREAD FOOTING

b	3'-3"	e	1'-0"
c	1'-9"	f	5'-0 7/8"
d	8'-8"	g	3'-5 5/16"

PILE FOUNDATION REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
A	F801	18	35'-4"	STR.	LONG T & B	1698
B	F602	31	8'-6"	STR.	TRANS BOT	396
C	F503	31	8'-6"	STR.	TRANS TOP	275

PILE FOUNDATION

b	3'-3"	d	9'-0"
c		g	3'-5 5/16"

STEM

a	2'-2"	k	2'-6"
j	1'-9 5/16"		

FOOTING DOWELS & STEM REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
D	F504E	31	3'-0"	STR.	DOWEL FF	97
E	F605E	31	10'-2"	4'-11"	DOWEL BF	473
F	F606E	30	7'-0"	6'-0"	DOWEL BF	315
G	S401E	31	13'-1"	STR.	VERT FF	271
H	S502E	31	12'-1"	STR.	VERT BF	391
J	S503E	30	7'-3"	STR.	VERT BF	227
K	S504E	31	10'-7"	4'-9"	TIE	342
L	S405E	32	30'-0"	STR.	HORIZ EF	641
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153
N	S507E	12	7'-9"	1'-9"	EXP JT TIE	97
P	S508E	——	8'-2"	2'-2"	EXP JT TIE	——
Q	S509E	38	8'-7"	4'-0"	RAIL DOWEL	340
Q	S509E	36	6'-0"	2'-8"	J-RAIL DOWEL	225

QUANTITIES

STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	18.8	CY
PILE		CY
STRUCTURE CONCRETE (3Y43) (STEM)	33.1	CY
REINFORCEMENT (PLAIN)		
SPREAD	1262	LB
PILE	2369	LB
REINFORCEMENT (EPOXY)	3007	LB

h = 17' PANELS: L=30'-6"

SPREAD FOOTING REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
A	F501	20	32'-11"	STR.	LONG T & B	687
B	F602	31	8'-8"	STR.	TRANS BOT	404
C	F603	31	8'-8"	STR.	TRANS TOP	404

DIMENSIONS — SPREAD FOOTING

b	3'-6"	e	1'-0"
c	1'-9"	f	5'-4 3/8"
d	9'-2"	g	3'-8 5/16"

PILE FOUNDATION REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
A	F 01	20		STR.	LONG T & B	
B	F 02	31	9'-0"	STR.	TRANS BOT	
C	F503	31	9'-0"	STR.	TRANS TOP	291

PILE FOUNDATION

b	3'-6"	d	9'-6"
c		g	3'-8 5/16"

STEM

a	2'-2 1/2"	k	2'-6"
j	1'-9 13/16"		

FOOTING DOWELS & STEM REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
D	F504E	31	3'-0"	STR.	DOWEL FF	97
E	F605E	31	11'-5"	5'-2"	DOWEL BF	532
F	F606E	30	8'-0"	7'-0"	DOWEL BF	360
G	S401E	31	14'-1"	STR.	VERT FF	292
H	S502E	31	12'-1"	STR.	VERT BF	391
J	S503E	30	7'-3"	STR.	VERT BF	227
K	S504E	31	10'-7"	4'-9"	TIE	342
L	S405E	34	30'-0"	STR.	HORIZ EF	681
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153
N	S507E	14	7'-9"	1'-9"	EXP JT TIE	113
P	S508E	——	8'-2"	2'-2"	EXP JT TIE	——
Q	S509E	38	8'-7"	4'-0"	RAIL DOWEL	340
Q	S509E	36	6'-0"	2'-8"	J-RAIL DOWEL	225

QUANTITIES

STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	19.8	CY
PILE		CY
STRUCTURE CONCRETE (3Y43) (STEM)	35.6	CY
REINFORCEMENT (PLAIN)		
SPREAD	1495	LB
PILE		LB
REINFORCEMENT (EPOXY)	3188	LB

h = 13' PANELS: 20 L= 10'-0"

SPREAD FOOTING REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
A	F501	16	12'-5"	STR.	LONG T & B	207
B	F802	11	6'-6"	STR.	TRANS BOT	191
C	F503	11	6'-6"	STR.	TRANS TOP	75

DIMENSIONS — SPREAD FOOTING

b	2'-6"	e	1'-0"
c	1'-6"	f	4'-2 1/8"
d	7'-0"	g	2'-[illegible]

STEM

a	2'-0 1/2"	k	2'-6"
j	1'-7 7/8"		

FOOTING DOWELS & STEM REINFORCEMENT

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.
D	F504E	11	3'-0"	STR.	DOWEL FF	34
E	F505E	11	7'-10"		DOWEL BF	90
F	F506E	10	8'-3"		DOWEL BF	86
G	S401E	11	10'-1"	STR.	VERT FF	74
H	S502E	11	7'-4"	STR.	VERT BF	84
J	S 03E	——	——	STR.	VERT BF	——
K	S504E	21	10'-7"		TIE	121
L	S405E	26	9'-6"	STR.	HORIZ EF	165
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153
N	S507E	6	7'-9"	1'-9"	EXP JT TIE	48
P	S508E	——	8'-2"	2'-2"	EXP JT TIE	——
Q	S509E	——	8'-7"	4'-0"	RAIL DOWEL	——
Q	S509E	——	6'-0"	2'-8"	J-RAIL DOWEL	——

QUANTITIES

STRUCTURE CONCRETE (1A43) (FOOTING)		
SPREAD	3.4	CY
STRUCTURE CONCRETE (3Y43) (STEM)	8.5	CY
REINFORCEMENT (PLAIN)		
SPREAD	473	LB
REINFORCEMENT (EPOXY)	855	LB

NOTES:
L = PANEL LENGTH
F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE
BARS MARKED WITH THE SUFFIX "E" ARE EPOXY COATED.
DESIGNERS SHALL CROSS OFF ENTRIES WHICH DO NOT APPLY.

APPROVED: MARCH 14, 1996
Donald J. Flemming
STATE BRIDGE ENGINEER

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

STANDARD SHEET NO. FIG. 5-395.208 (2 OF 4)
STANDARD APPROVED:

TITLE: PANEL TABULATIONS (2' - LIVE LOAD SURCHARGE)

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WALL LOADING CASE:
2' - LIVE LOAD SURCHARGE

WALL GEOMETRICS AND DATA - SPREAD FOOTING							QUANTITIES PER FOOT - SPREAD FOOTING					BASE PRESSURE KIPS/SQ. FT. ①	
							STRUCTURAL CONCRETE		REINFORCEMENT				
STEM HEIGHT h	STEM WIDTH a	TOE WIDTH b	FOOTING THICKNESS c	FOOTING WIDTH d	SHEAR KEY SIZE e	SHEAR KEY LOCATION f	A43 (CU.YD.) FOOTING	3Y43 (CU.YD.) STEM	PLAIN (POUND)	EPOXY (POUND)	WALL DETAILING SCHEME	TOE	HEEL
5	1'-8½"	1'-0"	1'-3"	3'-6"	N/A	N/A	0.168	0.296	15.38	38.16	SHORT	1.670	0.070
6	1'-9"	1'-2"	1'-3"	4'-0"	N/A	N/A	0.192	0.360	16.43	41.74	SHORT	1.820	0.090
7	1'-9½"	1'-4"	1'-3"	4'-6"	N/A	N/A	0.216	0.425	19.70	45.34	SHORT	1.970	0.120
8	1'-10"	1'-6"	1'-3"	5'-0"	N/A	N/A	0.240	0.492	20.75	48.89	SHORT	2.110	0.150
9	1'-10½"	1'-8"	1'-3"	5'-6"	N/A	N/A	0.264	0.561	24.13	52.69	SHORT	2.250	0.180
10	1'-11"	1'-9"	1'-3"	6'-0"	N/A	N/A	0.287	0.631	25.18	62.49	MEDIUM	2.446	0.199
11	1'-11½"	2'-0"	1'-3"	6'-6"	N/A	N/A	0.312	0.703	31.28	66.85	MEDIUM	2.536	0.239
12	2'-0"	2'-3"	1'-3"	6'-9"	1'-0"	3'-10⅝"	0.361	0.776	35.38	72.23	MEDIUM	2.758	0.156
13	2'-0½"	2'-6"	1'-3"	7'-0"	1'-0"	4'-2⅛"	0.374	0.851	40.30	76.82	MEDIUM	2.986	0.013
14	2'-1"	2'-9"	1'-6"	7'-8"	1'-0"	4'-5¾"	0.477	0.928	40.49	81.74	MEDIUM	3.147	0.078
15	2'-1½"	3'-0"	1'-6"	8'-2"	1'-0"	4'-9¼"	0.506	1.006	40.10	99.57	TALL	3.239	0.111
16	2'-2"	3'-3"	1'-9"	8'-8"	1'-0"	5'-0⅞"	0.615	1.085	41.38	105.97	TALL	3.494	0.056
17	2'-2½"	3'-6"	1'-9"	9'-2"	1'-0"	5'-4⅜"	0.649	1.166	49.02	111.90	TALL	3.586	0.089
18	2'-3"	3'-9"	1'-9"	9'-8"	1'-0"	5'-7⅞"	0.682	1.249	50.52	129.74	TALL	3.679	0.121
19	2'-3½"	4'-0"	2'-0"	10'-2"	1'-0"	5'-11½"	0.810	1.333	54.26	137.41	TALL	3.935	0.066
20	2'-4"	4'-3"	2'-0"	10'-8"	1'-0"	6'-3"	0.875	1.417	61.38	165.51	TALL	4.056	0.090
21	2'-4½"	4'-6"	2'-0"	11'-2"	1'-0"	6'-6½"	0.916	1.504	71.34	174.30	TALL	4.151	0.122
22	2'-5"	4'-9"	2'-3"	11'-8"	1'-0"	6'-10⅛"	1.064	1.593	85.93	183.51	TALL	4.407	0.067
23	2'-5½"	5'-0"	2'-6"	12'-2"	1'-0"	7'-1¾"	1.221	1.683	84.82	224.49	TALL	4.663	0.012
24	2'-6"	5'-3"	2'-9"	12'-9"	1'-0"	7'-5⅜"	1.396	1.775	94.03	234.03	TALL	4.872	0.020
25	2'-6½"	5'-6"	2'-9"	13'-3"	1'-0"	7'-8⅞"	1.449	1.868	100.13	288.16	TALL	4.967	0.052
26	2'-7"	5'-10"	3'-0"	13'-9"	1'-0"	8'-1½"	1.631	1.963	102.26	299.67	TALL	5.189	0.000
27	2'-7½"	6'-2"	3'-3"	14'-4"	1'-0"	8'-6⅛"	1.832	2.059	127.34	315.84	TALL	5.364	0.000
28	2'-8"	6'-6"	3'-3"	15'-0"	1'-0"	8'-10⅝"	1.916	2.157	140.92	394.98	TALL	5.334	0.140
29	2'-8½"	6'-10"	3'-6"	15'-6"	1'-0"	9'-3¼"	2.123	2.257	148.00	407.90	TALL	5.558	0.077
30	---	---	---	---	---	---	---	---	---	---	---	---	---

NOTE:
EPOXY REINFORCEMENT QUANTITY ASSUMES AN EXPANSION JOINT IS USED ON BOTH PANEL ENDS. THE QUANTITY MUST BE ADJUSTED WHEN CONSTRUCTION JOINTS ARE USED. QUANTITIES ON THIS SHEET DO NOT INCLUDE RAILING. SEE RAILING SHEETS FOR RAIL REINFORCEMENT (EPOXY) AND RAIL CONCRETE (3Y46).

① PER MnDOT SPEC. 2451.1, CONTRACTOR SHALL PROVIDE SOIL TESTING TO VERIFY BEARING CAPACITIES FOR THE BASE PRESSURES AS SHOWN IN THE TABLE.

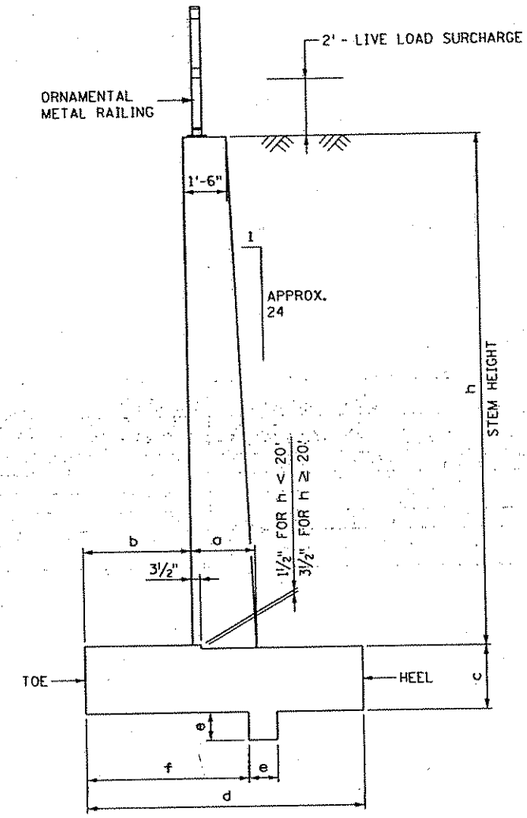
DESIGN CRITERIA

1992 A.A.S.H.T.O. DESIGN SPECIFICATIONS
DESIGN METHOD:
WORKING STRESS - STABILITY, FOUNDATIONS
LOAD FACTOR DESIGN - REINFORCED CONCRETE
f'c = 4,000 PSI
fy = 60,000 PSI

FACTOR OF SAFETY OVERTURNING: 2.0 MINIMUM
FACTOR OF SAFETY SLIDING: 1.5 MINIMUM
LOCATION OF RESULTANT: MIDDLE 1/3 OF FOOTING
NEGLECTING SOIL IN FRONT OF WALL.

SEE FOUNDATION REPORT FOR ALLOWABLE BEARING PRESSURE AND COEFFICIENT OF FRICTION.

BACKFILL CHARACTERISTICS:
INTERNAL ANGLE OF FRICTION: 35°
= 33 PCF EQUIVALENT FLUID PRESSURE ACTIVE STATE
= 53 PCF EQUIVALENT FLUID PRESSURE AT REST STATE
βe = 1.0
COEFFICIENT OF FRICTION: 0.55
UNIT WEIGHT: 125 PCF



TYPICAL SECTION

REVISION: 12-14-00
APPROVED: MARCH 14, 1996
Donald J. Flemming
STATE BRIDGE ENGINEER

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

CERTIFIED BY David D. Long
DAVID D. LONG
REG. NO. 24384 JANUARY 8, 2007

TITLE: RETAINING WALL (2' - LIVE LOAD SURCHARGE)

DES: DDL | DR: DM | APPROVED:
CHK: DJV | CHK: DJV

FIG. 5-395.212 (1 OF 4)

SHEET NO. 213 OF 681 SHEETS

RETAINING WALLS 6&7

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WALL LOADING CASE:
2' - LIVE LOAD SURCHARGE

SHORT WALL (5'-9')
MEDIUM WALL (10'-14')
TALL WALL (15'-29')

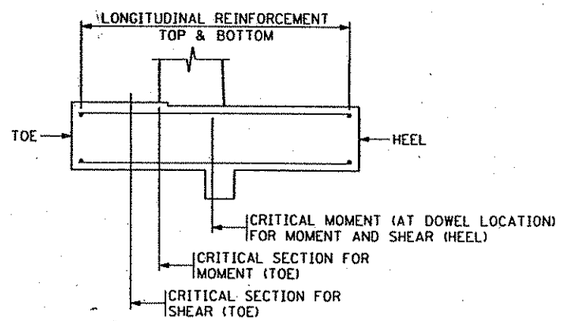
WALL REINFORCEMENT - SPREAD FOOTING				
WALL HEIGHT h	STEM	FOOTING		
	DOWEL SIZE AND SPACING	TOE (BOTTOM TRANSVERSE) (1)	HEEL (TOP TRANSVERSE) (2)	LONGITUDINAL (TOP AND BOT.)
		BAR SIZE & SPA.	BAR SIZE & SPA.	BAR SIZE & SPA.
5	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
6	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
7	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
8	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
9	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
10	#5 @ 6"	#5 @ 12"	#5 @ 12"	#5 @ 12"
11	#5 @ 6"	#6 @ 12"	#5 @ 12"	#5 @ 12"
12	#5 @ 6"	#7 @ 12"	#5 @ 12"	#5 @ 12"
13	#5 @ 6"	#8 @ 12"	#5 @ 12"	#5 @ 12"
14	#5 @ 6"	#7 @ 12"	#5 @ 12"	#5 @ 12"
15	#6 @ 6"	#6 @ 12"	#5 @ 12"	#5 @ 12"
16	#6 @ 6"	#6 @ 12"	#5 @ 12"	#5 @ 12"
17	#6 @ 6"	#6 @ 12"	#6 @ 12"	#5 @ 12"
18	#7 @ 6"	#6 @ 12"	#6 @ 12"	#5 @ 12"
19	#7 @ 6"	#6 @ 12"	#6 @ 12"	#5 @ 12"
20	#8 @ 6"	#6 @ 12"	#7 @ 12"	#5 @ 12"
21	#8 @ 6"	#7 @ 12"	#7 @ 12"	#5 @ 12"
22	#8 @ 6"	#7 @ 12"	#7 @ 12"	#6 @ 12"
23	#9 @ 6"	#6 @ 12"	#7 @ 12"	#6 @ 12"
24	#9 @ 6"	#6 @ 12"	#8 @ 12"	#6 @ 12"
25	#10 @ 6"	#6 @ 12"	#8 @ 12"	#6 @ 12"
26	#10 @ 6"	#6 @ 12"	#8 @ 12"	#6 @ 12"
27	#10 @ 6"	#6 @ 12"	#8 @ 12"	#7 @ 12"
28	#11 @ 6"	#6 @ 12"	#9 @ 12"	#7 @ 12"
29	#11 @ 6"	#6 @ 12"	#9 @ 12"	#7 @ 12"
30	---	---	---	---

NOTES:

FOOTING BAR SIZE, #5 BAR MINIMUM, PER MN/DOT

(1) AREA OF STEEL PROVIDED INCLUDES BACK FACE STEM DOWELS, EXCLUDING #5 DOWELS, SEE STEM REINFORCEMENT.

(2) BASED ON GROSS SOIL LOAD ON HEEL.



TYPICAL SECTION

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-26

STANDARD SHEET NO. FIG. 5-395.209	TITLE: RETAINING WALL
STANDARD APPROVED:	

Sheet No. 214 Of 681 Sheets

APPROVED: MARCH 14, 1996
Donald J. Fleming
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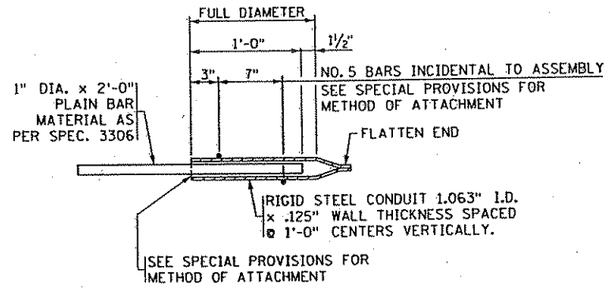
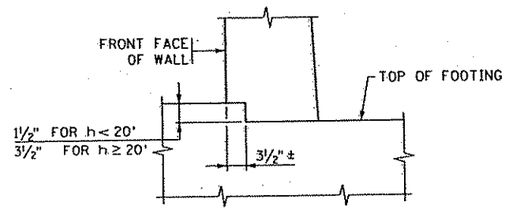
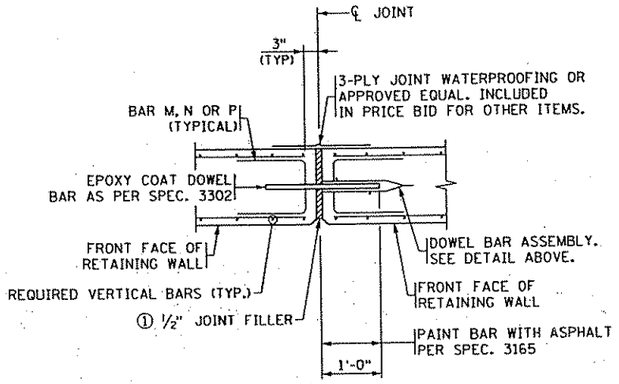


DOWEL BAR ASSEMBLY

MATERIAL AND PLACING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS. ALL MATERIAL TO BE EPOXY COATED.

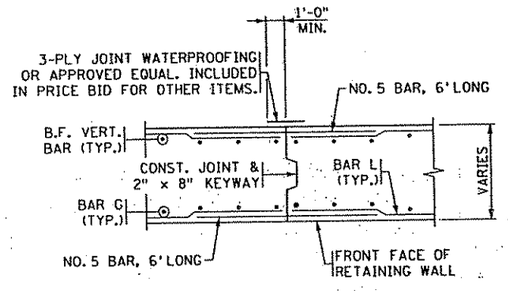


DETAIL B



TYPICAL SECTION THRU CORK AND DOWEL JOINT

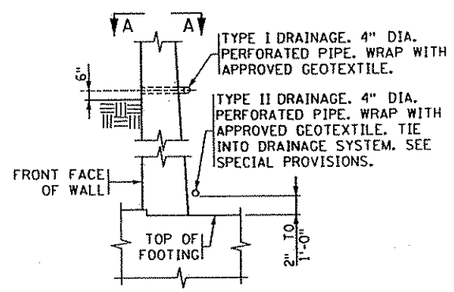
SPACE @ ABOUT 90 FEET.



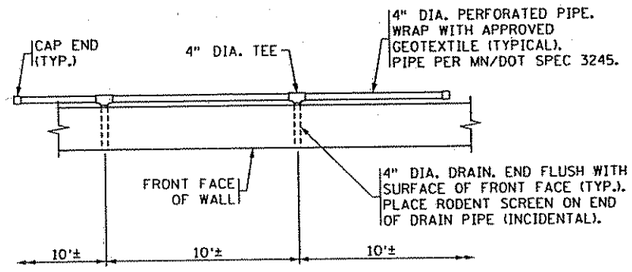
CONSTRUCTION JOINT DETAIL

(STEM SHOWN)

USE AS OPTION FOR CORK AND DOWEL JOINTS USE BETWEEN EXPANSION JOINTS.



DETAIL A



SECTION A-A

(TYPE I DRAINAGE DETAIL)

SUMMARY OF DRAINAGE QUANTITIES

ITEM	UNIT	PANEL 1	PANEL 2-6	PANEL 7	PANEL 20	PANEL 21-29	PANEL 30	TOTAL
4" DIA. PERFORATED PIPE	LIN. FT.	25'-0"	153'-0"	12'-0"	12'-0"	275'-0"	31'-0"	508'-0"
4" DIA. DRAIN PIPE	LIN. FT.	5'-3"	26'-3"	3'-6"	3'-6"	47'-3"	5'-3"	91'-0"
END CAP	EACH	1		1	1		1	4
4" DIA. TEE	EACH	3	15	2	2	27	3	52

NOTES:

① JOINT FILLER SHALL BE CORK (SPEC. 2401.3E3) OR OTHER APPROVED EQUAL. CORK AND NAILS INCLUDED IN PRICE BID FOR OTHER ITEMS.

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

STANDARD SHEET NO. FIG. 5-395.204 (MOD.)

STANDARD APPROVED:

TITLE: MISCELLANEOUS DETAILS I

Sheet No. 215 Of 681 Sheets

APPROVED: MARCH 14, 1996

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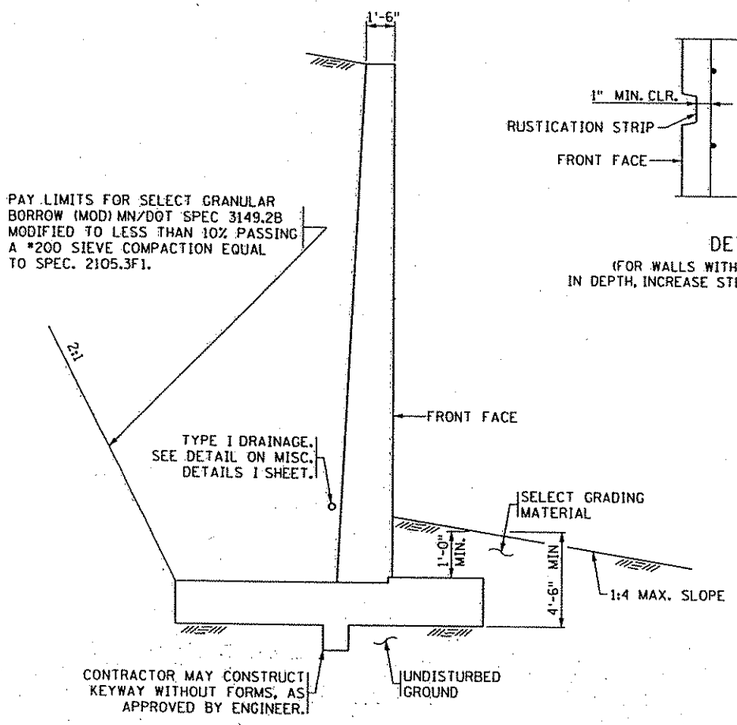
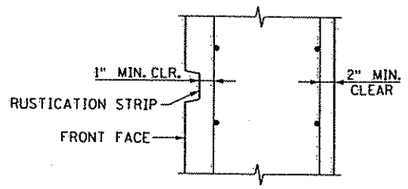
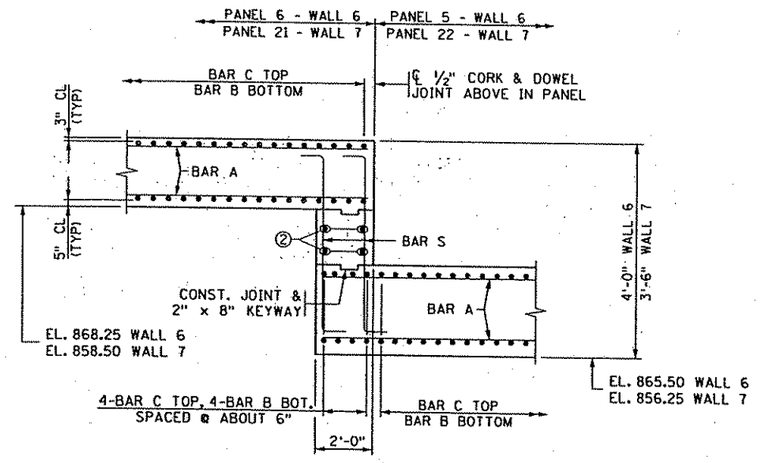


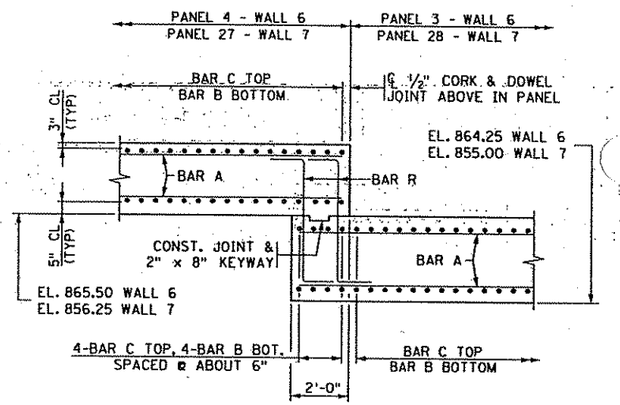
TYPICAL SECTION
(INPLACE SOIL OPTION SHOWN)



DETAIL C
(FOR WALLS WITH RUSTICATION OVER 1" IN DEPTH, INCREASE STEM THICKNESS ACCORDINGLY.)



STEPPED FOOTING DETAIL - LONGIT. SECTION
(TYPE 1)
(SPREAD FOOTING SHOWN)



STEPPED FOOTING DETAIL - LONGIT. SECTION
(TYPE 2)
(SPREAD FOOTING SHOWN)

NOTES:

① MINIMUM DEPTH 1'-6" OR SHEAR KEY DEPTH. SOILS ENGINEER TO DETERMINE MAXIMUM DEPTH.

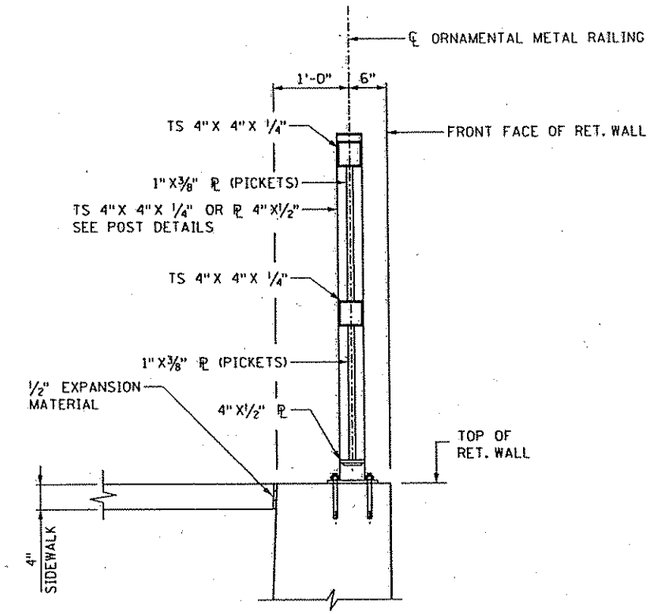
② BARS TO BE SAME AS FOOTING TOP AND BOTTOM BARS AT PANEL 5 TO 6 STEP - WALL 6 AND AT PANEL 23 TO 22 STEP - WALL 7.

\\s07lnt09\Infrastructure\33889\33889042\struct\pln-sht\042-rw20x.dgn
1/8/2007 8:48:28 AM

APPROVED: MARCH 14, 1996
Donald J. Fleming
STATE BRIDGE ENGINEER

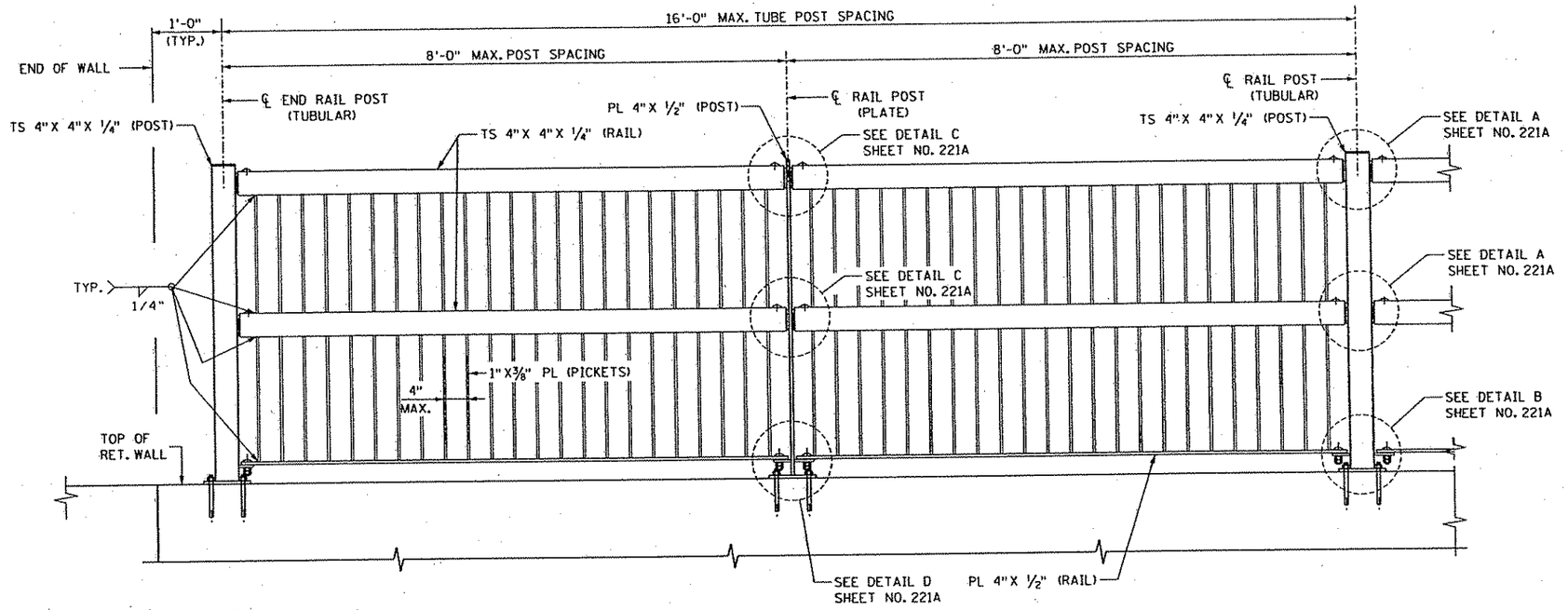
S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

STANDARD SHEET NO. FIG. 5-395.205 (MOD.)	TITLE: MISCELLANEOUS DETAILS II
STANDARD APPROVED:	



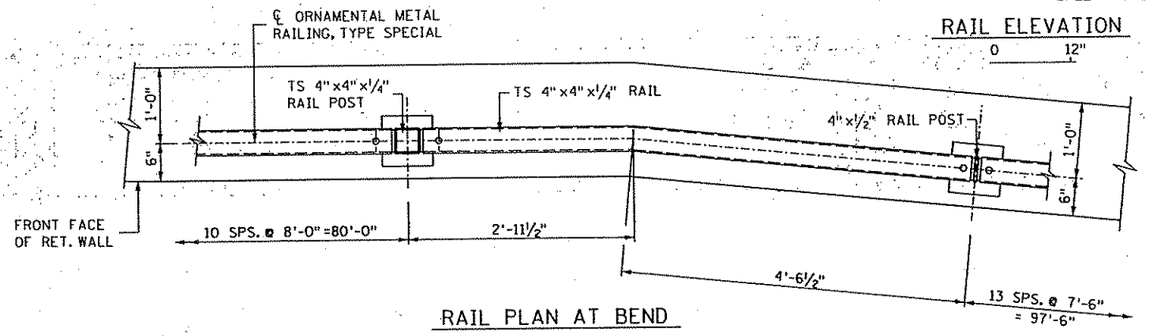
SECTION THRU RAIL

0 12"



RAIL ELEVATION

0 12"



RAIL PLAN AT BEND

GENERAL NOTES

ALL STRUCTURAL TUBING IN RAIL SHALL BE A500, GRADE B.

MATERIAL FOR CLOSURE PLATES, BASE PLATES, RAIL POSTS AND SPINDLES SHALL CONFORM TO SPEC. 3306.

FASTENERS SHALL BE PER SPEC. 3391.

ADHESIVE ANCHORS AND ASSOCIATED HARDWARE SHALL BE STAINLESS STEEL (AISI 304 OR AISI 316).

INSTALL ADHESIVE ANCHORS PER MANUFACTURER SPECIFICATIONS.

CARRIAGE BOLTS AND ASSOCIATED HARDWARE SHALL BE PER SPEC. 3391.2A AND BE GALVANIZED IN ACCORDANCE WITH SPEC. 3392.

GALVANIZE ALL STRUCTURAL STEEL PER MNDOT 3394 AFTER FABRICATION.

VENT HOLES SHALL BE DRILLED IN THE RAIL TUBES AS NECESSARY TO FACILITATE GALVANIZING.

RAIL POSTS AND PICKETS SHALL BE VERTICAL.

HORIZONTAL RAILS SHALL BE CAMBERED / CURVED WHERE APPLICABLE PARALLEL TO TOP OF RETAINING WALL. CHORDS BETWEEN POSTS WILL NOT BE ALLOWED.

FOR RAIL COATING SEE SPECIAL PROVISIONS.

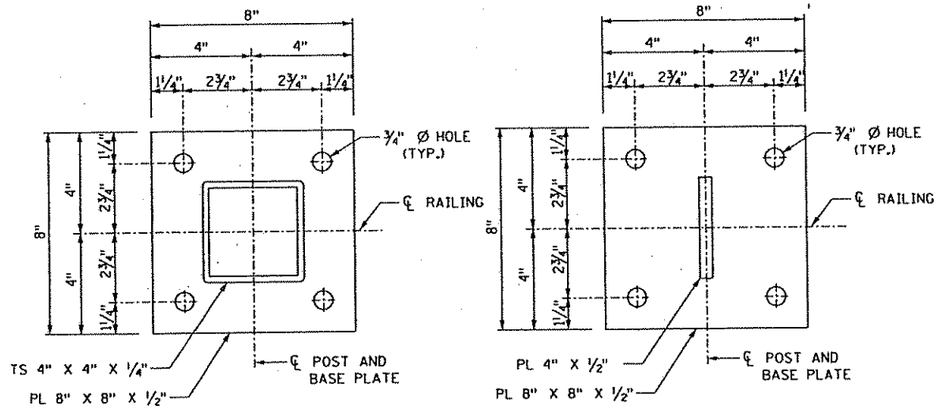
THE RAIL BASE PLATES AND THE PROTRUDING PORTIONS OF THE BOLTS, NUTS AND WASHERS SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

LENGTH OF RAILIING FOR PAYMENT SHALL BE MEASURED OUT TO OUT.

ALL RAILING SHALL BE GROUNDED WITH 5/8"Ø COPPER ROD AS PER SPEC. 2557.

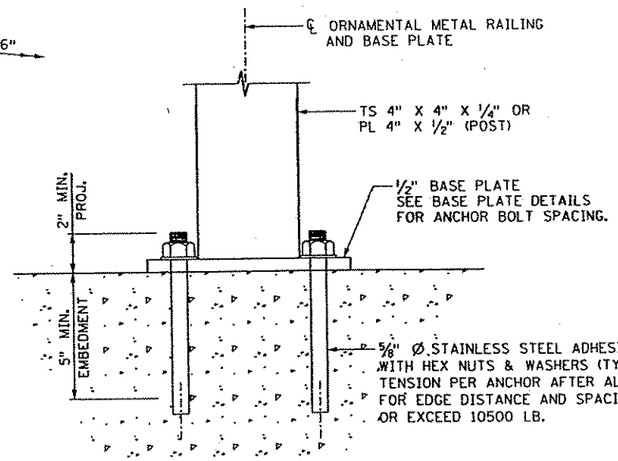
PRICE BID FOR ORNAMENTAL METAL RAILING INCLUDES THE ANCHORAGES.

SEE SPECIAL PROVISIONS FOR RAIL ANCHORAGE REQUIREMENTS.



BASE PLATE DETAIL
TUBULAR POST

BASE PLATE DETAIL
PLATE POST



RAIL ANCHORAGE DETAIL

0 10"

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS
Thresher Square
700 South Third Street
Minneapolis, MN 55415

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

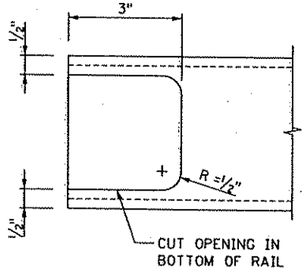
TITLE: ORNAMENTAL METAL RAILING FOR RETAINING WALL NO. 6 AND 7

DES: JMF	DR: WFS	APPROVED:
CHK: DDL	CHK: JMF	

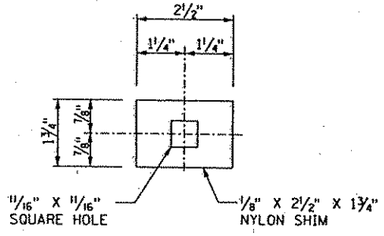
SHEET NO. 217 OF 681 SHEETS

ORNAMENTAL METAL RAILING

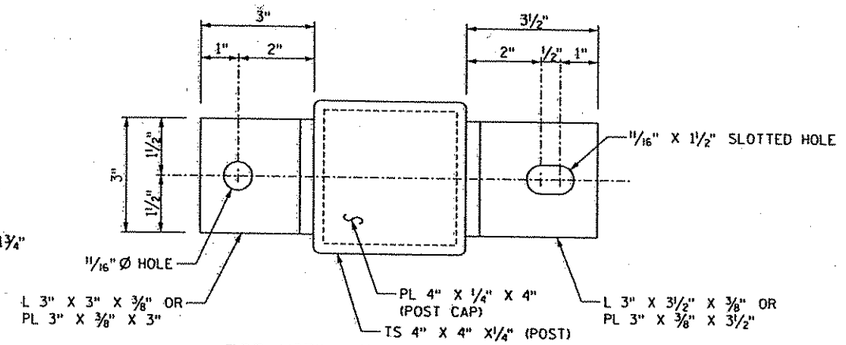
1/8/2007 8:05:50 AM \\s07fnt09\infrastructure\33889\33889042\struct\plt-sht\042-rail01.dgn



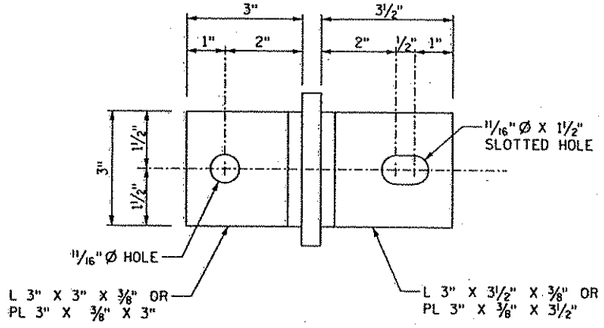
RAIL NOTCH DETAIL



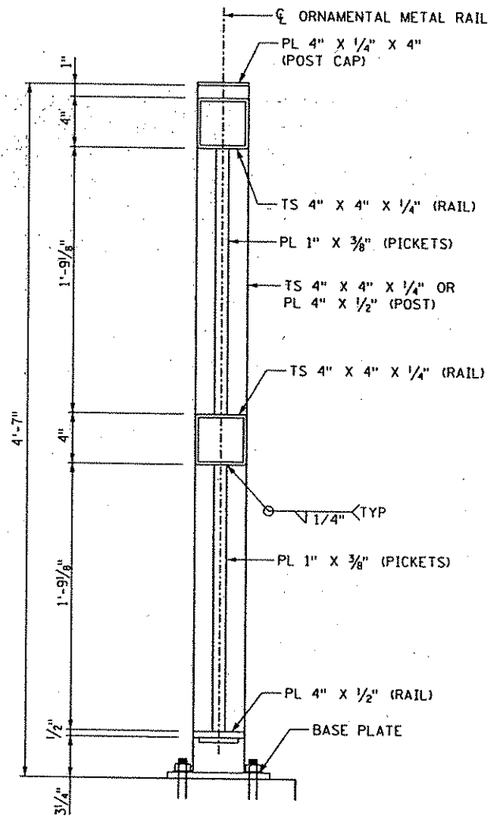
NYLON SHIM DETAIL



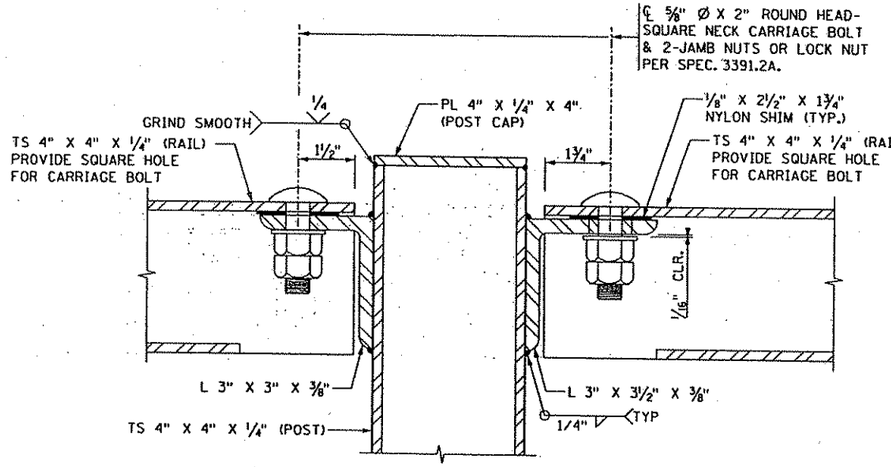
TOP VIEW OF TUBULAR POST



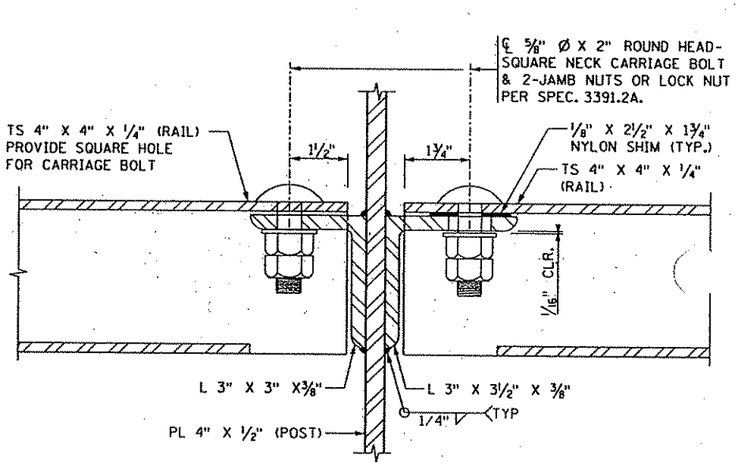
TOP VIEW OF PLATE POST



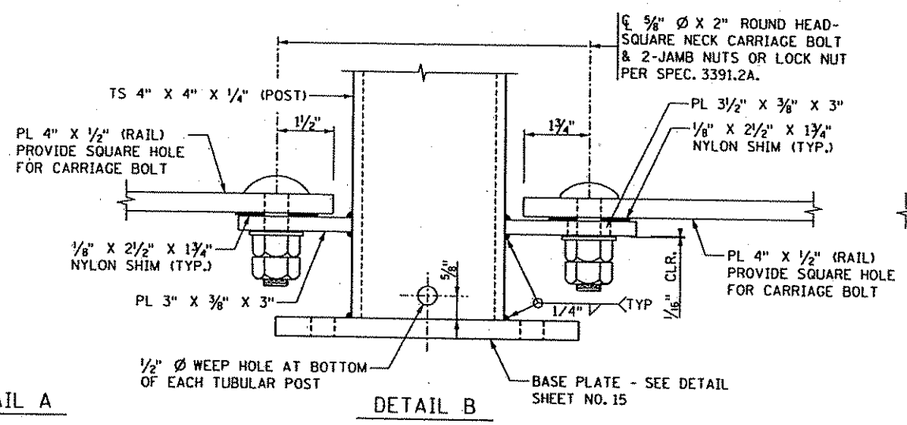
SECTION THRU RAIL



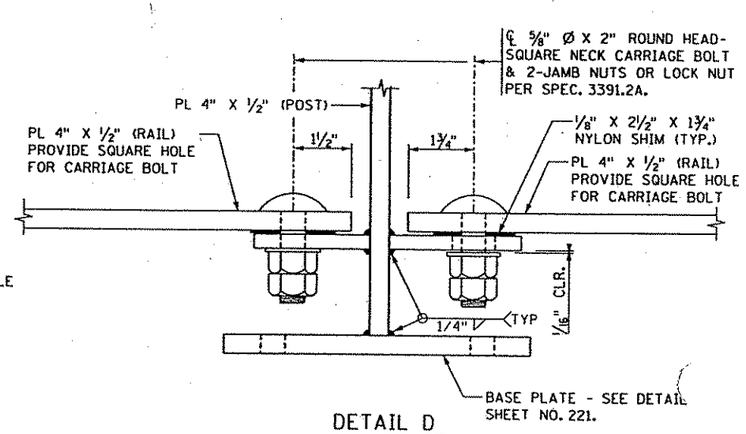
DETAIL A



DETAIL C



DETAIL B



DETAIL D

DETAIL A

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Threader Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D Lowe
PRINTED NAME: DAVID D. LOWE
DATE: JANUARY 8, 2007 REG. NO. 24384

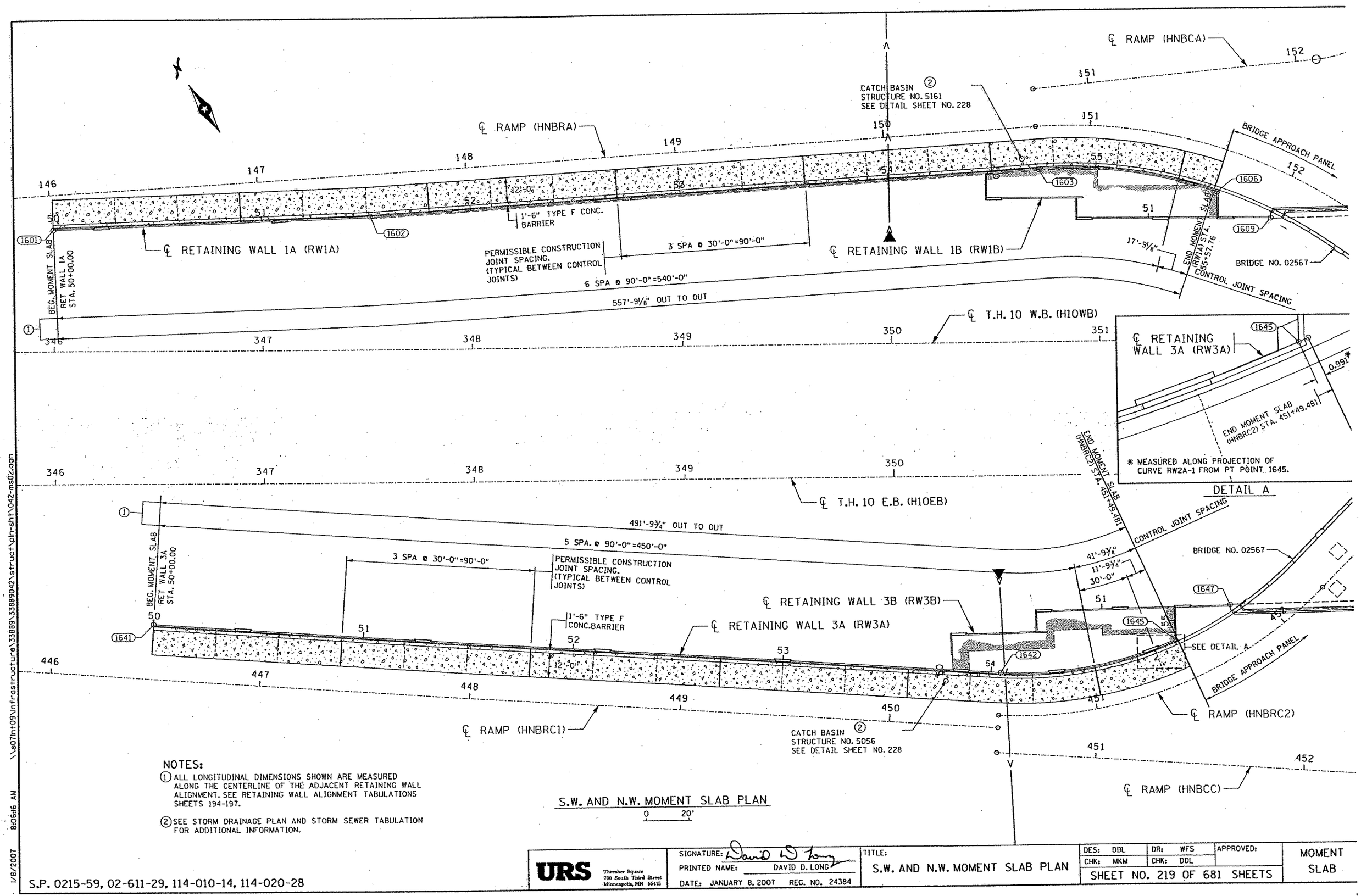
TITLE: ORNAMENTAL METAL RAILING
FOR RETAINING WALL NO. 6 AND 7

DES: JMF	DR: WFS	APPROVED:
CHK: DDL	CHK: JMF	

SHEET NO. 218 OF 681 SHEETS

ORNAMENTAL METAL RAILING

1/8/2007 ...:51 AM \\s07int09\Infrastructure\33889\33889042\struct\pln-sht\042-rail_sign



NOTES:

① ALL LONGITUDINAL DIMENSIONS SHOWN ARE MEASURED ALONG THE CENTERLINE OF THE ADJACENT RETAINING WALL ALIGNMENT. SEE RETAINING WALL ALIGNMENT TABULATIONS SHEETS 194-197.

② SEE STORM DRAINAGE PLAN AND STORM SEWER TABULATION FOR ADDITIONAL INFORMATION.

S.W. AND N.W. MOMENT SLAB PLAN

0 20'

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: S.W. AND N.W. MOMENT SLAB PLAN

DES: DDL	DR: WFS	APPROVED:
CHK: MKM	CHK: DDL	

SHEET NO. 219 OF 681 SHEETS

MOMENT SLAB

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

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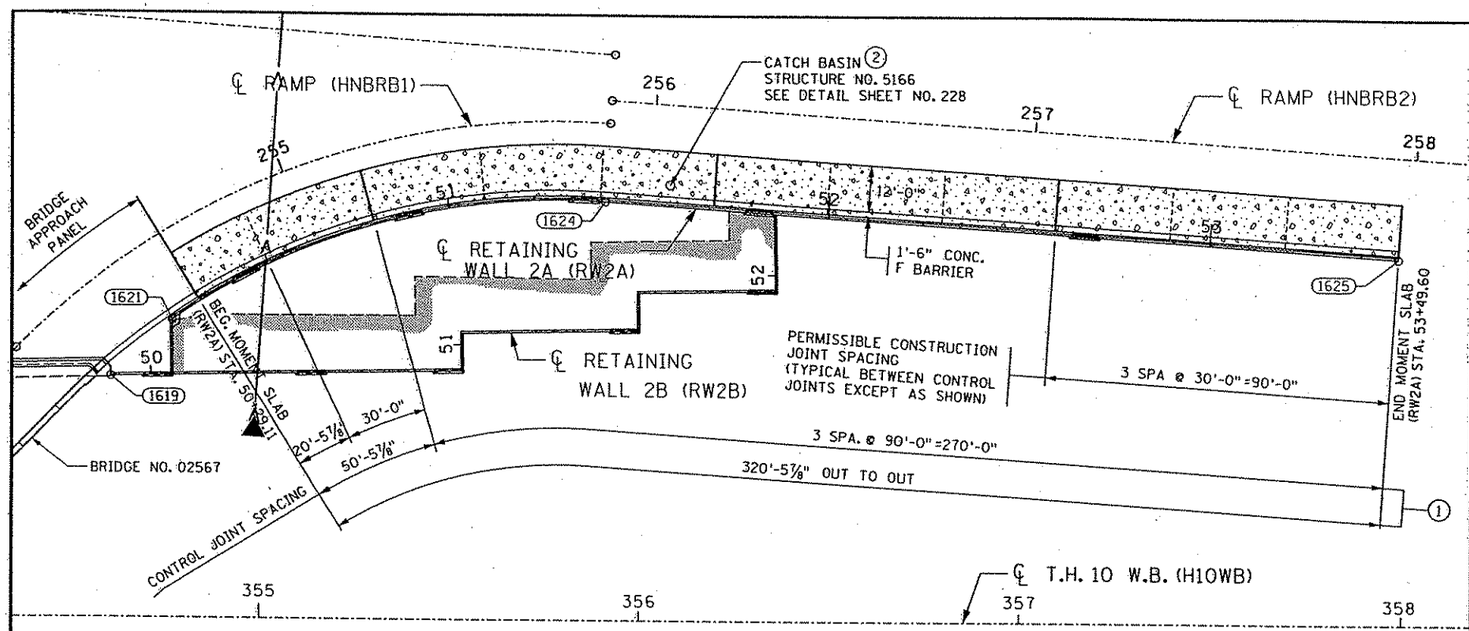
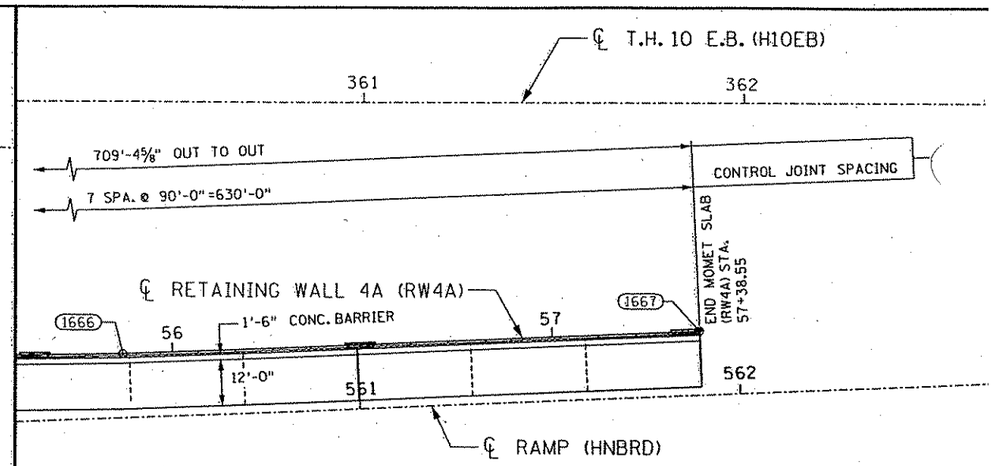
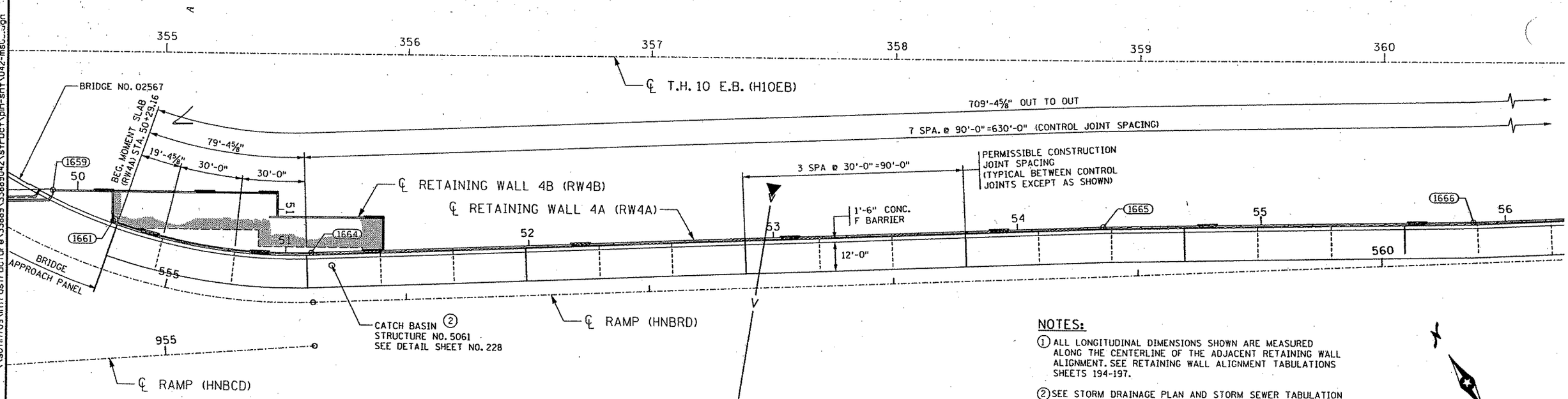




S.E. MOMENT SLAB PLAN (CONTINUED)

0 20'



NOTES:

① ALL LONGITUDINAL DIMENSIONS SHOWN ARE MEASURED ALONG THE CENTERLINE OF THE ADJACENT RETAINING WALL ALIGNMENT. SEE RETAINING WALL ALIGNMENT TABULATIONS SHEETS 194-197.

② SEE STORM DRAINAGE PLAN AND STORM SEWER TABULATION FOR ADDITIONAL INFORMATION.

S.E. AND N.E. MOMENT SLAB PLAN

0 20'

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Threaber Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D. Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: S.E. AND N.E. MOMENT SLAB PLAN

DES: DDL	DR: WFS	APPROVED:
CHK: MKM	CHK: DDL	

SHEET NO. 220 OF 681 SHEETS

MOMENT SLAB

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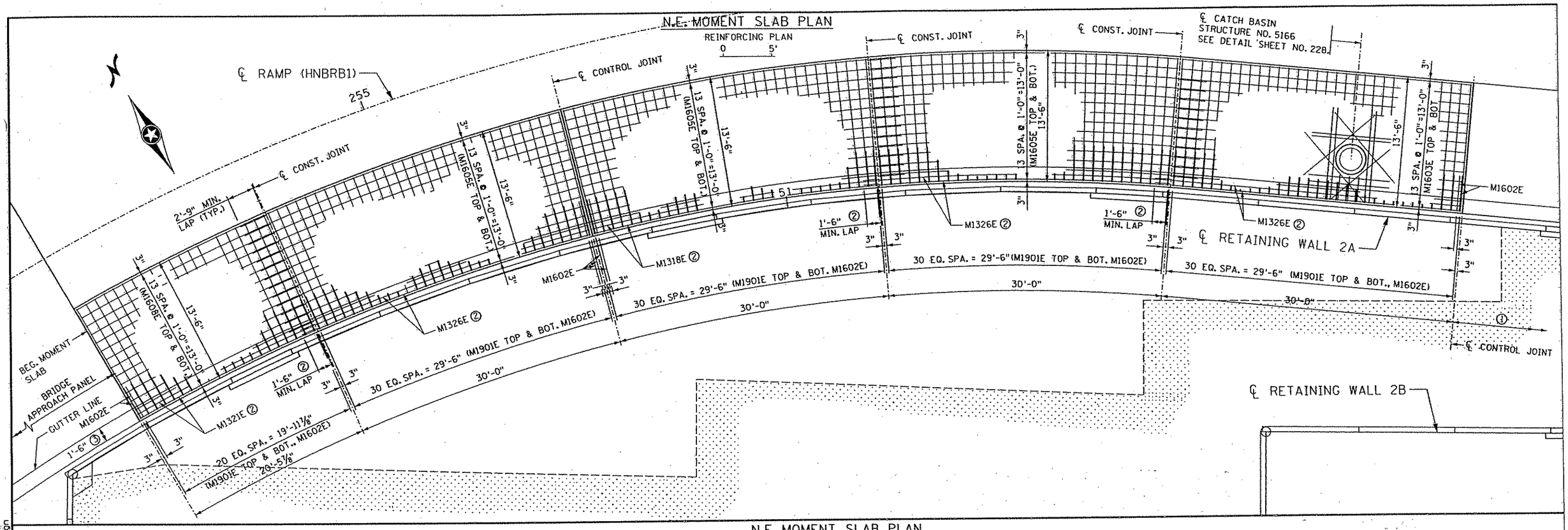
N.E. MOMENT SLAB PLAN

REINFORCING PLAN

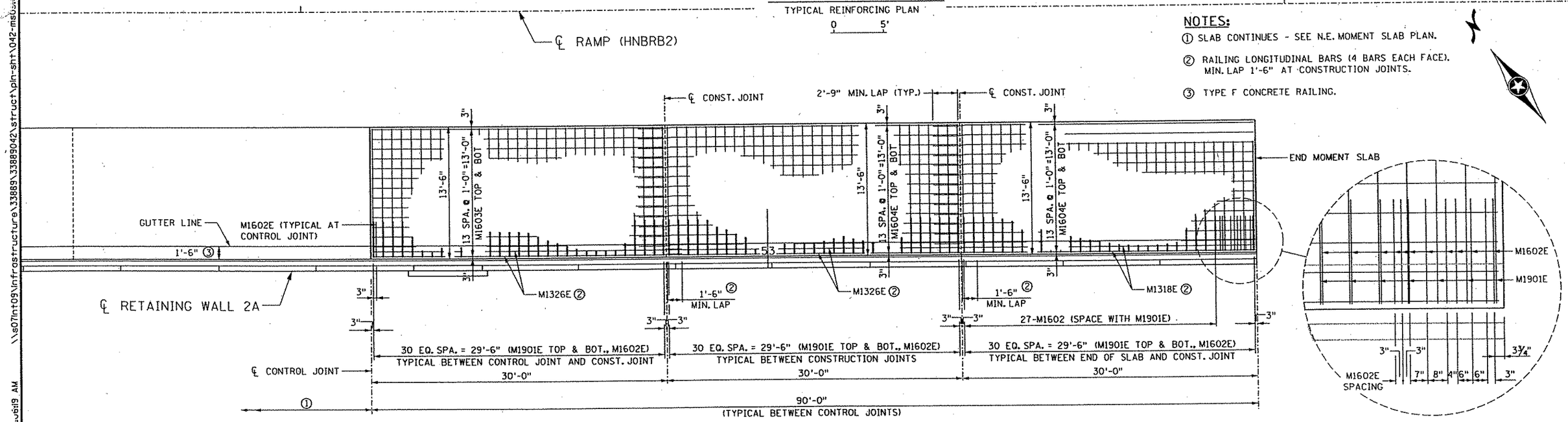
0 5'



N.E. MOMENT SLAB PLAN

TYPICAL REINFORCING PLAN

0 5'



NOTES:

① SLAB CONTINUES - SEE N.E. MOMENT SLAB PLAN.

② RAILING LONGITUDINAL BARS (4 BARS EACH FACE). MIN. LAP 1'-6" AT CONSTRUCTION JOINTS.

③ TYPE F CONCRETE RAILING.

URS
Thresher Square
700 South Third Street
Minneapolis, MN 55415

SIGNATURE: David D Long

PRINTED NAME: DAVID D. LONG

DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: N.E. MOMENT SLAB DETAILS AND REINFORCEMENT

DES: DDL	DR: WFS	APPROVED:
CHK: MKM	CHK: DDL	

SHEET NO. 221 OF 681 SHEETS

MOMENT SLAB DETAILS

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

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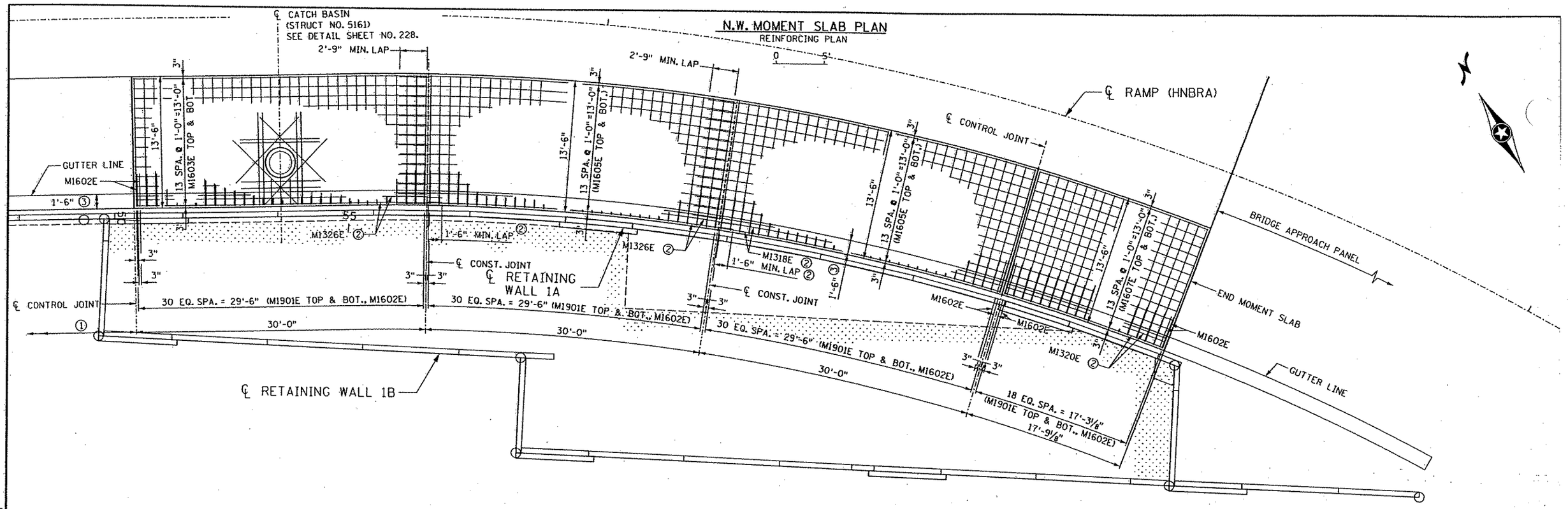

NOTES:

① SLAB CONTINUES - SEE N.W. MOMENT SLAB PLAN.

② RAILING LONGITUDINAL BARS (4 BARS EACH FACE). MIN. LAP 1'-6" AT CONSTRUCTION JOINTS.

③ TYPE F CONCRETE RAILING.

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D. Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: N.W. MOMENT SLAB DETAILS AND REINFORCEMENT

DES: DDL	DR: WFS	APPROVED:
CHK: MKM	CHK: DDL	

SHEET NO. 222 OF 681 SHEETS

MOMENT SLAB DETAILS

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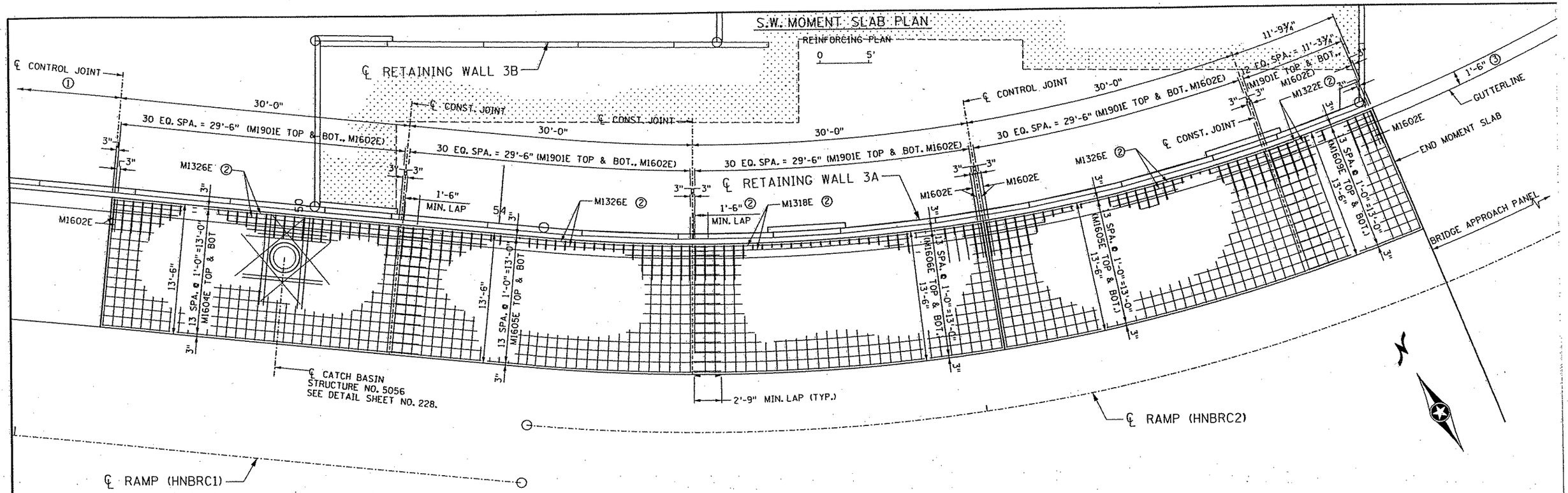
S.W. MOMENT SLAB PLAN

REINFORCING PLAN

0 5'

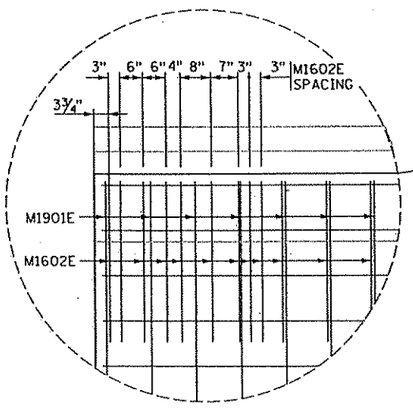


NOTES:

① SLAB CONTINUES - SEE S.W. MOMENT SLAB PLAN.

② RAILING LONGITUDINAL BARS (4 BARS EACH FACE). MIN. LAP 1'-6" AT CONSTRUCTION JOINTS.

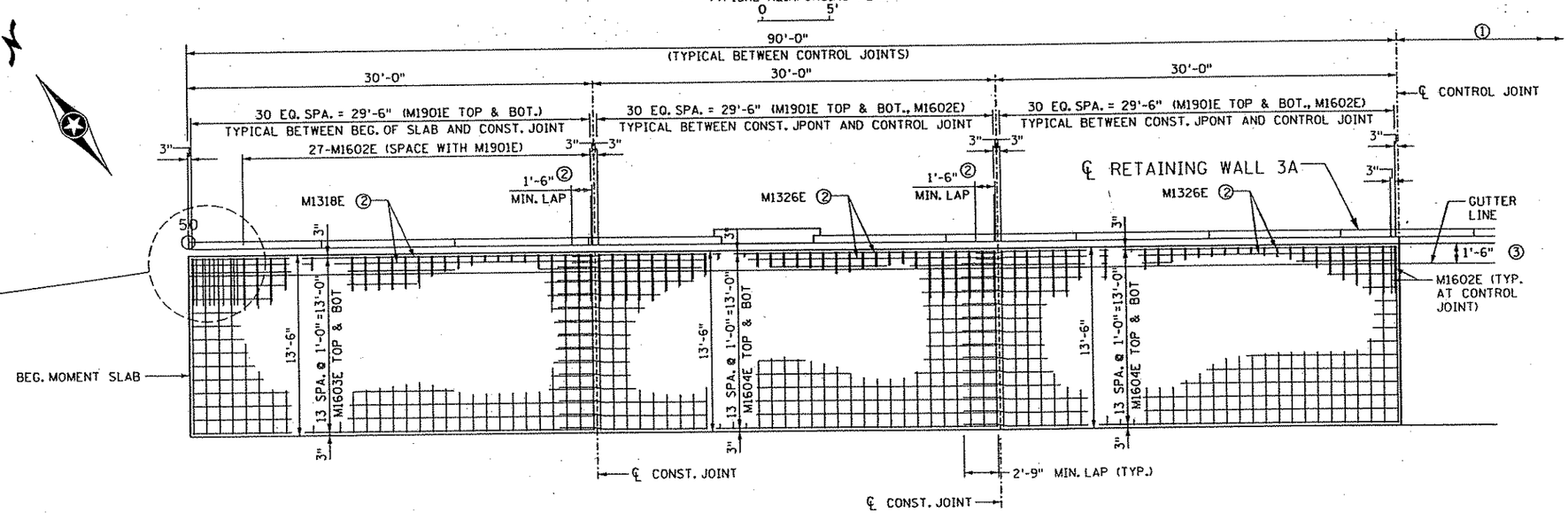
③ TYPE F CONCRETE RAILING.



S.W. MOMENT SLAB PLAN

TYPICAL REINFORCING PLAN

0 5'



S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thresher Square 700 South Third Street Minneapolis, MN 55415	SIGNATURE: David D Long PRINTED NAME: DAVID D. LONG DATE: JANUARY 8, 2007 REG. NO. 24384	TITLE: S.W. MOMENT SLAB DETAILS AND REINFORCEMENT	DES: DDL / DR: WFS / APPROVED: CHK: MKM / CHK: DDL SHEET NO. 223 OF 681 SHEETS	MOMENT SLAB DETAILS

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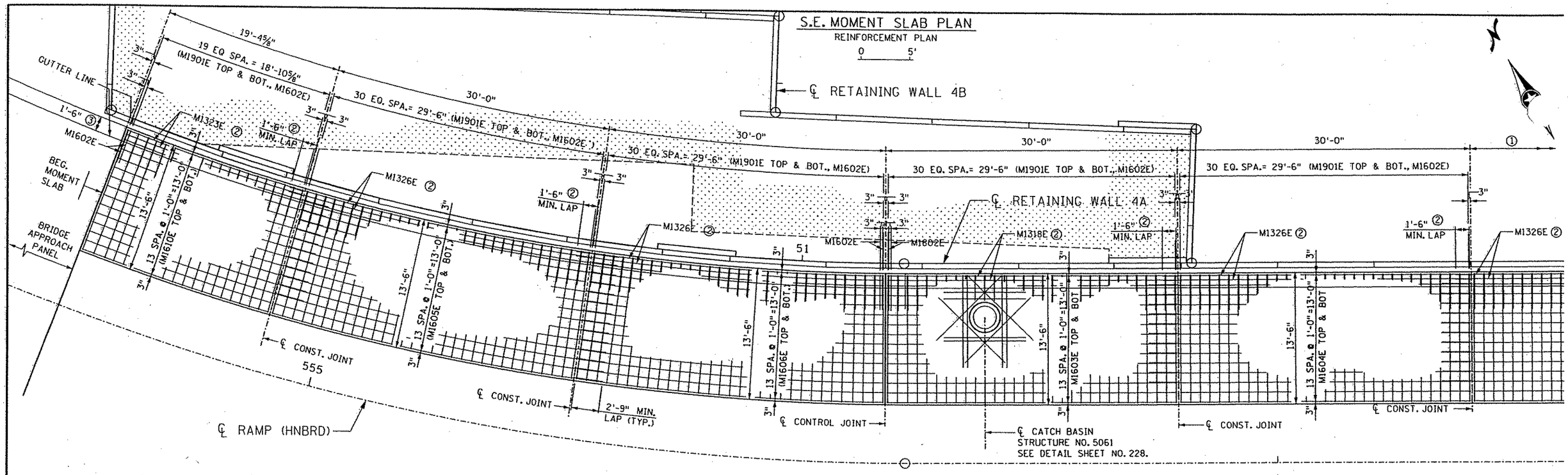
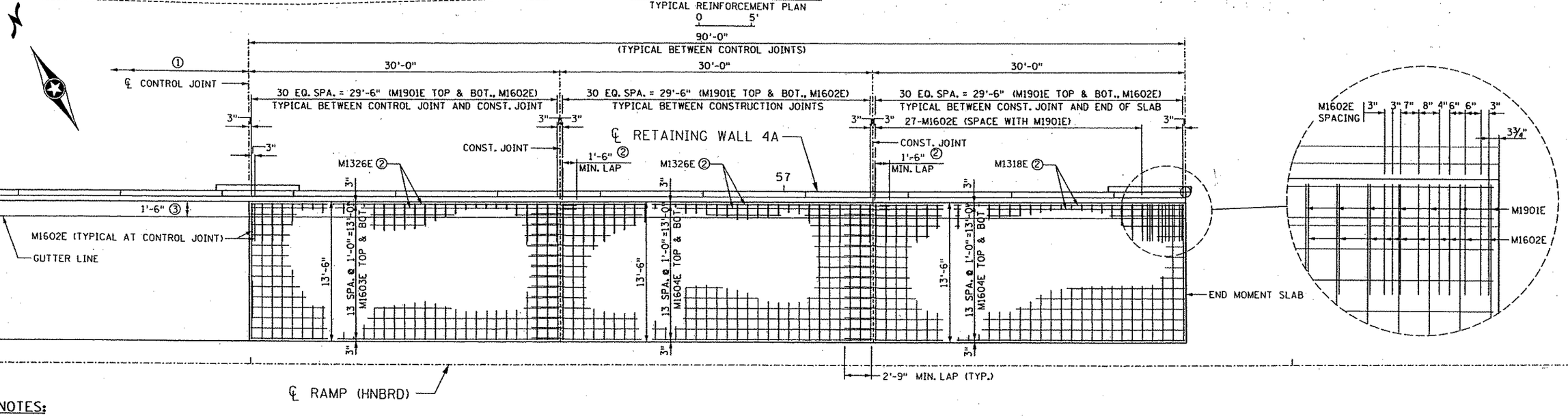
S.E. MOMENT SLAB PLAN
REINFORCEMENT PLAN
0 5'



S.E. MOMENT SLAB PLAN
TYPICAL REINFORCEMENT PLAN
0 5'



NOTES:
① SLAB CONTINUES - SEE S.E. MOMENT SLAB PLAN.

② RAILING LONGITUDINAL BARS (4 BARS EACH FACE). MIN. LAP 1'-6" AT CONSTRUCTION JOINTS.

③ TYPE F CONCRETE RAILING.

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: S.E. MOMENT SLAB DETAILS AND REINFORCEMENT

DES: DDL	DR: WFS	APPROVED:
CHK: MKM	CHK: DDL	

SHEET NO. 224 OF 681 SHEETS

MOMENT SLAB DETAILS

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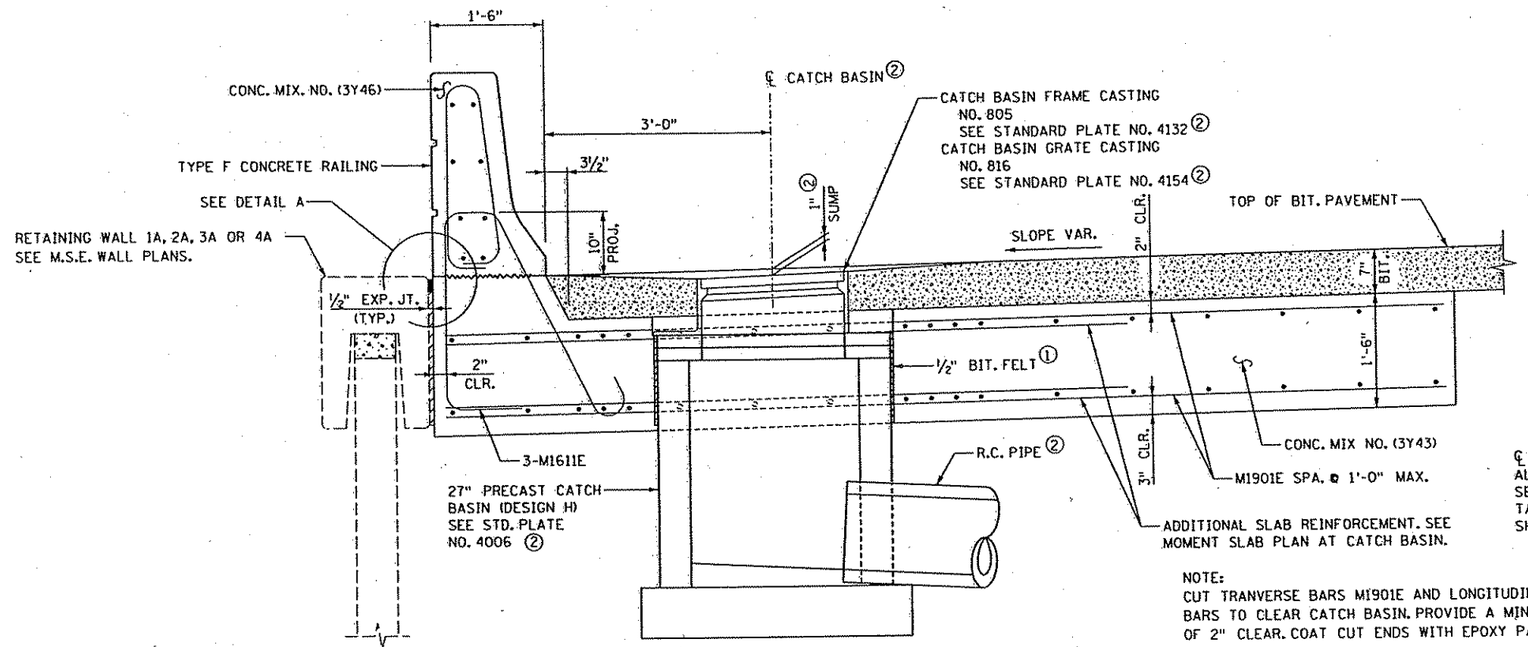
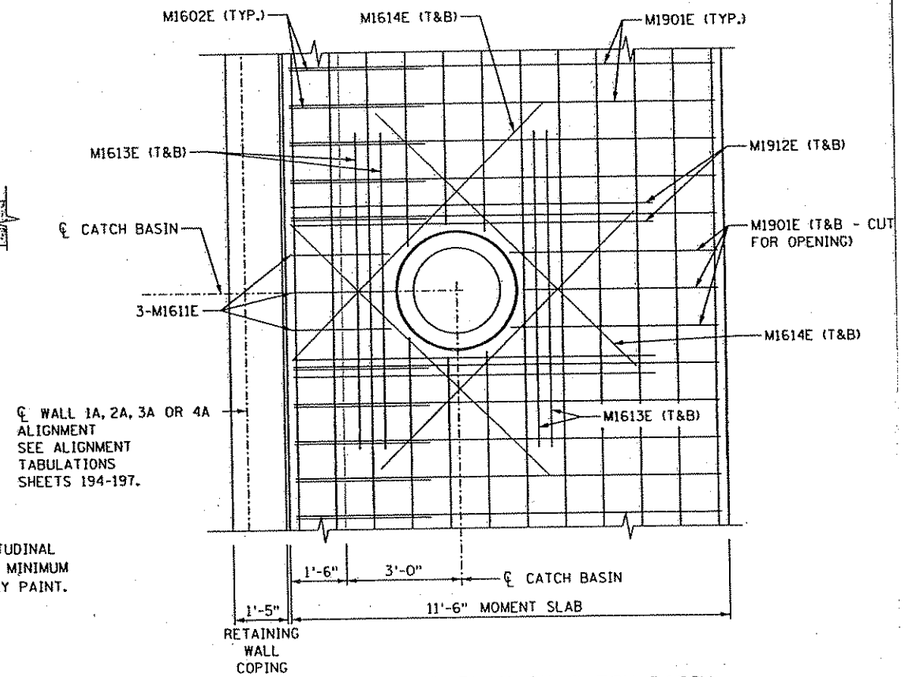


NOTE:
CUT TRANVERSE BARS M1901E AND LONGITUDINAL BARS TO CLEAR CATCH BASIN. PROVIDE A MINIMUM OF 2" CLEAR. COAT CUT ENDS WITH EPOXY PAINT.

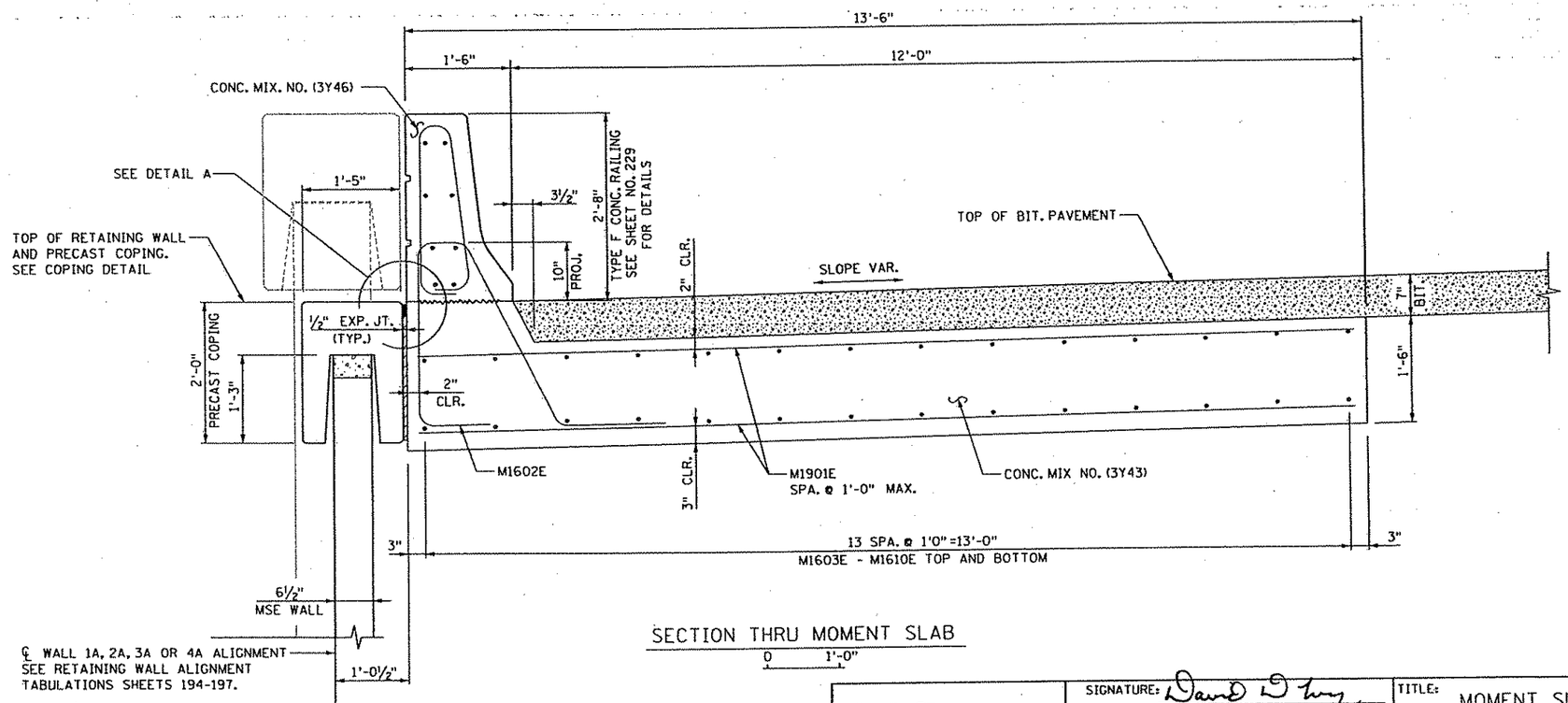
SECTION THRU MOMENT SLAB AT CATCH BASIN

0 1'-0"



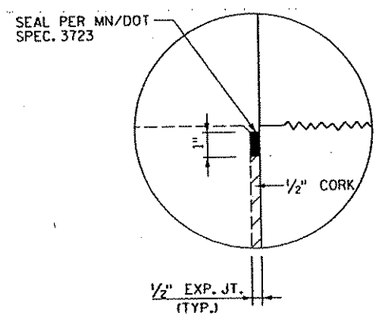
MOMENT SLAB PLAN AT CATCH BASIN

0 1'-0"



SECTION THRU MOMENT SLAB

0 1'-0"



DETAIL A

NOTES:

① TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.

② SEE DRAINAGE PLANS FOR ADDITIONAL INFORMATION

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Threaber Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: David D. Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

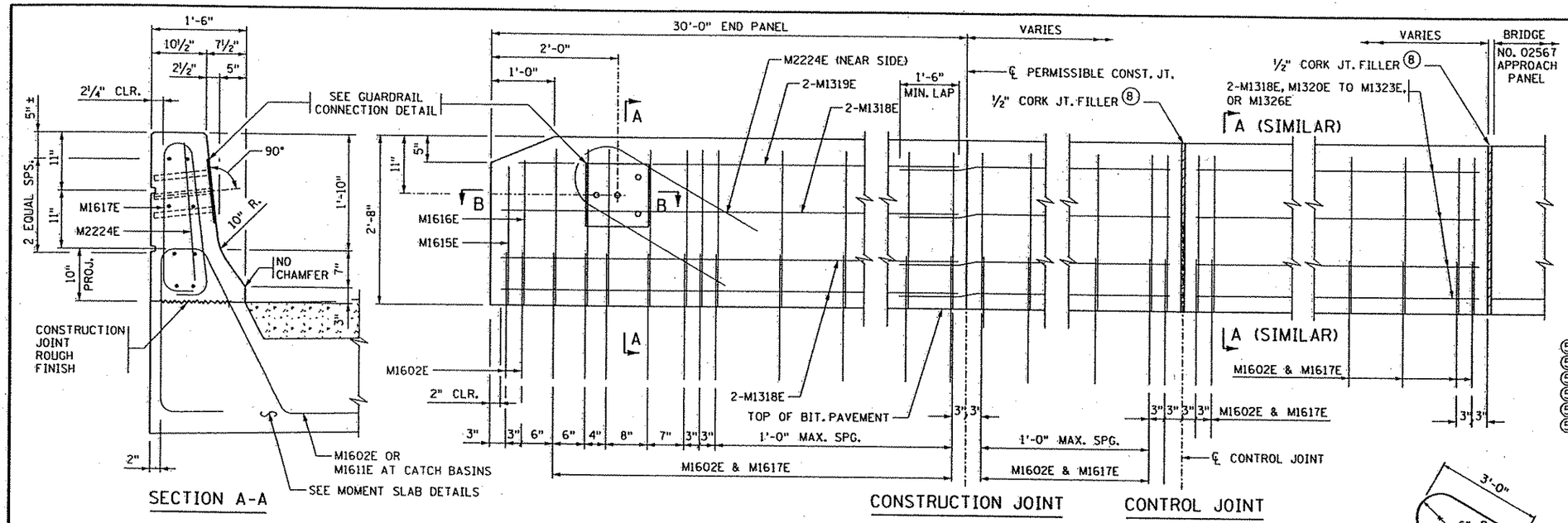
TITLE: MOMENT SLAB DETAILS AND REINFORCEMENT

DES: DDL	DR: WFS	APPROVED:
CHK: MKM	CHK: DDL	

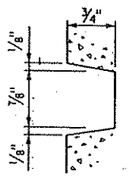
SHEET NO. 225 OF 681 SHEETS

MOMENT SLAB DETAILS

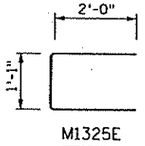
1/8/2007 6:06:25 AM \\s07int09\infrastructure\33889\33889042\struct\pln-sht\042-msb.dgn



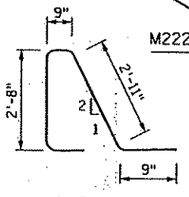
BARRIER MEETS TEST LEVEL 4 REQUIREMENTS OF NCHRP REPORT 350



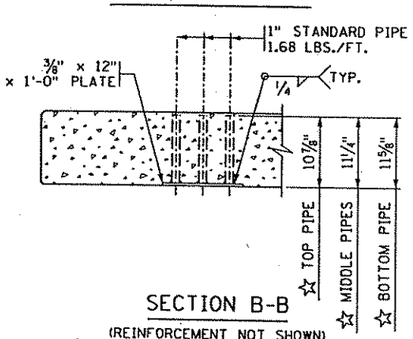
RAIL RUSTICATION



M1325E

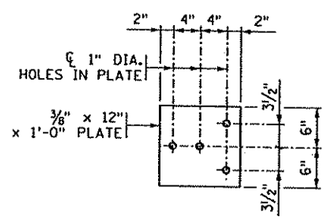


M1602E



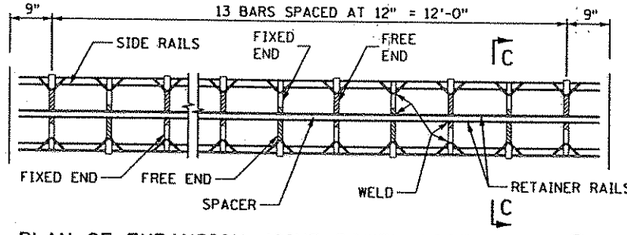
SECTION B-B

(REINFORCEMENT NOT SHOWN)
☆ DIMENSIONS INCLUDE ⅜" PLATE

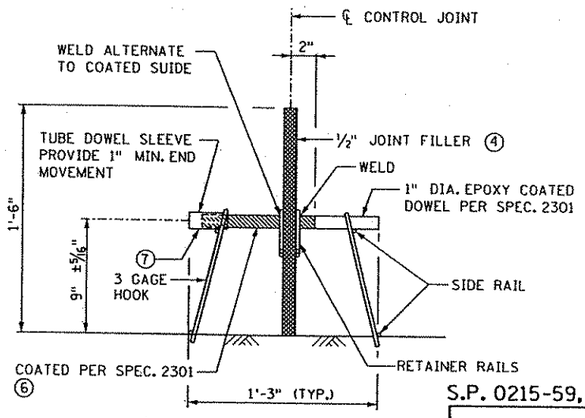


GUARDRAIL CONNECTION DETAIL

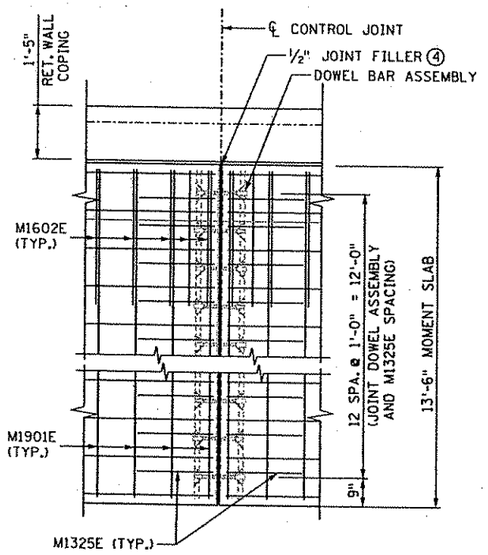
GALVANIZE AFTER FABRICATION PER Mn/DOT SPEC. 3394
ESTIMATED WEIGHT = 22 LBS



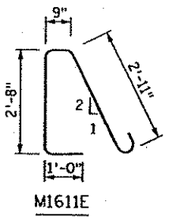
PLAN OF EXPANSION JOINT DOWEL ASSEMBLIES ②



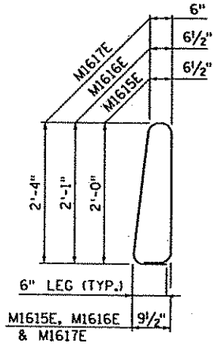
SECTION C-C



DOWEL BAR ASSEMBLY LAYOUT AT MOMENT SLAB CONTROL JOINT



M1611E



M1615E, M1616E & M1617E

BILL OF REINFORCEMENT FOR MOMENT SLABS

	BAR	NO.	LENGTH	SHAPE	LOCATION
	M1901E	4300	13'-2"	STR	SLAB - TRANSVERSE
	M1602E	2215	8'-9"	BENT	RAILING TIE
	M1603E	196	29'-8"	STR	SLAB - LONGIT.
	M1604E	280	32'-9"	STR	SLAB - LONGIT.
	M1605E	16 SER. OF 14	32'-11" TO 35'-2"	STR	SLAB - LONGIT.
	M1606E	4 SER. OF 14	29'-10" TO 32'-0"	STR	SLAB - LONGIT.
	M1607E	2 SER. OF 14	17'-5" TO 18'-6"	STR	SLAB - LONGIT.
	M1608E	2 SER. OF 14	20'-3" TO 21'-9"	STR	SLAB - LONGIT.
	M1609E	2 SER. OF 14	11'-6" TO 12'-4"	STR	SLAB - LONGIT.
	M1610E	2 SER. OF 14	19'-7" TO 20'-3"	STR	SLAB - LONGIT.
	M1611E	12	7'-10"	BENT	RAILING TIE AT C.B.
	M1912E	32	9'-6"	STR	SLAB - CATCH BASIN
	M1613E	32	8'-4"	STR	SLAB - CATCH BASIN
	M1614E	32	9'-6"	STR	SLAB - CATCH BASIN
	M1615E	4	5'-7"	BENT	RAILING
	M1616E	4	5'-9"	BENT	RAILING
	M1617E	2207	6'-3"	BENT	RAILING
⑤	M1318E	168	29'-8"	STR	RAILING - LONGIT.
⑤	M1319E	8	29'-3"	STR	RAILING - LONGIT.
⑤	M1320E	8	17'-5"	STR	RAILING - LONGIT.
⑤	M1321E	8	20'-1"	STR	RAILING - LONGIT.
⑤	M1322E	8	11'-6"	STR	RAILING - LONGIT.
⑤	M1323E	8	19'-2"	STR	RAILING - LONGIT.
	M2224E	4	6'-7"	BENT	RAILING
	M1325E	546	5'-1"	STR	SLAB AT CONTROL JOINT
	M1326E	368	31'-6"	BENT	RAILING

SUMMARY OF QUANTITIES FOR MOMENT SLABS

	ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
	2201	CONCRETE BASE	SQ. YD.	3119
	2201	STRUCTURAL CONCRETE (3Y43)	CU. YD.	1668
	2201	REINFORCING BARS (EPOXY COATED)	POUND	161800
	2201	DOWEL BARS	EACH	273
	2301	EXPANSION JOINT DESIGN E1D-1	LIN. FT.	284
①	2401	TYPE F (TL-4) RAILING CONC. (3Y46)	LIN. FT.	2080

GENERAL NOTES:

LENGTH OF "TYPE F (TL-4) RAILING CONCRETE (3Y46)" FOR PAYMENT SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE BARRIER.

CONCRETE BARRIER = 439 LBS/FT. (0.108 CU. YDS./FT.)

FINISH ALL EDGES OF BARRIER WITH ½" VEE, EXCEPT WHERE OTHERWISE NOTED.

SEE MOMENT SLAB PLANS FOR JOINT SPACING.

GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, MN/DOT SPEC. 3306.

GUARDRAIL CONNECTION AND CORK TO BE CONSIDERED INCIDENTAL TO "TYPE F (TL-4) RAILING CONCRETE (3Y46)".

BARRIER QUANTITIES ARE LISTED IN SUMMARY OF QUANTITIES FOR MOMENT SLABS.

NOTES:

① "TYPE F CONCRETE RAILING (CONCRETE 3Y46)" IS APPROX. 225 CU. YD.

② CENTERLINE OF INDIVIDUAL DOWEL BARS SHALL BE PARALLEL TO TOP OF SUBGRADE ±1/4" AND TO BE PARALLEL TO THE PAVEMENT CENTERLINE ±1/4" WITHIN THE LENGTH OF THE BAR.

④ EXPANSION JOINT DESIGN E1D-1.

⑤ SEE MOMENT SLAB DETAILS AND REINFORCEMENT FOR LONGITUDINAL RAILING REINFORCEMENT LOCATIONS.

⑥ PAINT BAR WITH ASPHALT PAINT PER SPEC. 3165.

⑦ PLACE METAL INSTALLATION SHIELDS FOR EXPANSION JOINTS PARALLEL TO THE PAVEMENT SURFACE AND THE PAVEMENT CENTERLINE WITHIN A TOLERANCE OF ¼" WITHIN THE LENGTH OF THE BAR.

⑧ JOINT FILLER SHALL BE CORK (SPEC. 2401.3E3) OR OTHER APPROV EQUAL. CORK AND NAILS TO BE INCLUDED IN THE PRICE BID FO OTHER ITEMS.

MODIFIED FOR USE ON MOMENT SLAB AND INCLUDES MOMENT SLAB DETAILS.

S.P. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS
Thresher Square
700 South Third Street
Minneapolis, MN 55415

SIGNATURE: David D. Long
PRINTED NAME: DAVID D. LONG
DATE: JANUARY 8, 2007 REG. NO. 24384

TITLE: CONCRETE BARRIER (TYPE F, TL-4) AND MOMENT SLAB DETAILS

DES: DDL	DR: WFS	APPROVED:
CHK: MKM	CHK: DDL	

SHEET NO. 226 OF 681 SHEETS

FIG. 5-397.115 MOD.

MOMENT SLAB DETAILS

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1/10/2007 1:23 PM

Xref'd Drawings
HNSN-EROSION
HNSN-WALLS
HNSN-PCO
HNSN-PUT
hnsn-psg
PRD-ESM
HNSN-EUT
HNSN
22x34.

NOTE:
REFER TO CONSTRUCTION PLAN DETAIL SHEET 1 OF 6 FOR INTERSECTION SPOT ELEVATION PLAN

BEGIN CONSTRUCTION
BEGIN S.P. 02-611-29, 114-020-28
HANSON BOULEVARD
NB STA 3+16.41

℄ HANSON BOULEVARD SB

℄ HANSON BOULEVARD

℄ HANSON BOULEVARD NB

MATCHLINE 12+00

MATCHLINE 23+00

NOTE:
REFER TO CONSTRUCTION PLAN DETAIL SHEETS 2-4 OF 6 FOR INTERSECTION SPOT ELEVATION PLAN

NOTE:
REFER TO CONSTRUCTION PLAN DETAIL SHEETS 2-4 OF 6 FOR INTERSECTION SPOT ELEVATION PLAN.

SEE SHEET 4 OF 7

SEE SHEET 4 OF 7

CONSTRUCTION LIMITS

PROPOSED R/W

PROPOSED DRAINAGE & UTILITY EASEMENT

PROPOSED R/W TEMPORARY CONSTRUCTION EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

RETAINING WALL NO. 6

RETAINING WALL NO. 7

WETLAND

MOBIL SERVICE GAS PUMPS

PHILLIPS 66 SERVICE

CAR WASH

CORNER PLAZA

115TH AVE.

NORTHDALE BLVD

HANSON BOULEVARD

TH 10/47

RAMP A

RAMP B

RAMP C

RAMP D

EX. R/W

EX. MN/DOT R/W

EX-5001 EX-5002 EX-5003 EX-5004 EX-5005 EX-5006 EX-5007 EX-5016 EX-5017

5001 5002 5003 5004 5005 5008 5009 5010 5011 5012 5013 5014 5015 5018 5019 5020 5021 5022 5023 5024 5025 5026 5027 5028 5029 5030 5041 5042 5043 5044 5051 5052 5053 5054 5055 5056 5056A 5057 5058 5059 5061 5062 5071 5161 5162 5163 5164 5165 5166 5166A 5167 5171 5172 5173 5174 5175 5176 5182 5183 5184 5185 5186 5187 5188 5191 5192 5193 5194 5195 5196 5197 5198

487.000 154.000 152.500

0 25 50 100
SCALE IN FEET

⇨ DENOTES DITCH FLOW DIRECTION

1 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ
DESIGN BY: JCD
CHKED. BY: SAW
DWG. NAME: ST-HNSN01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

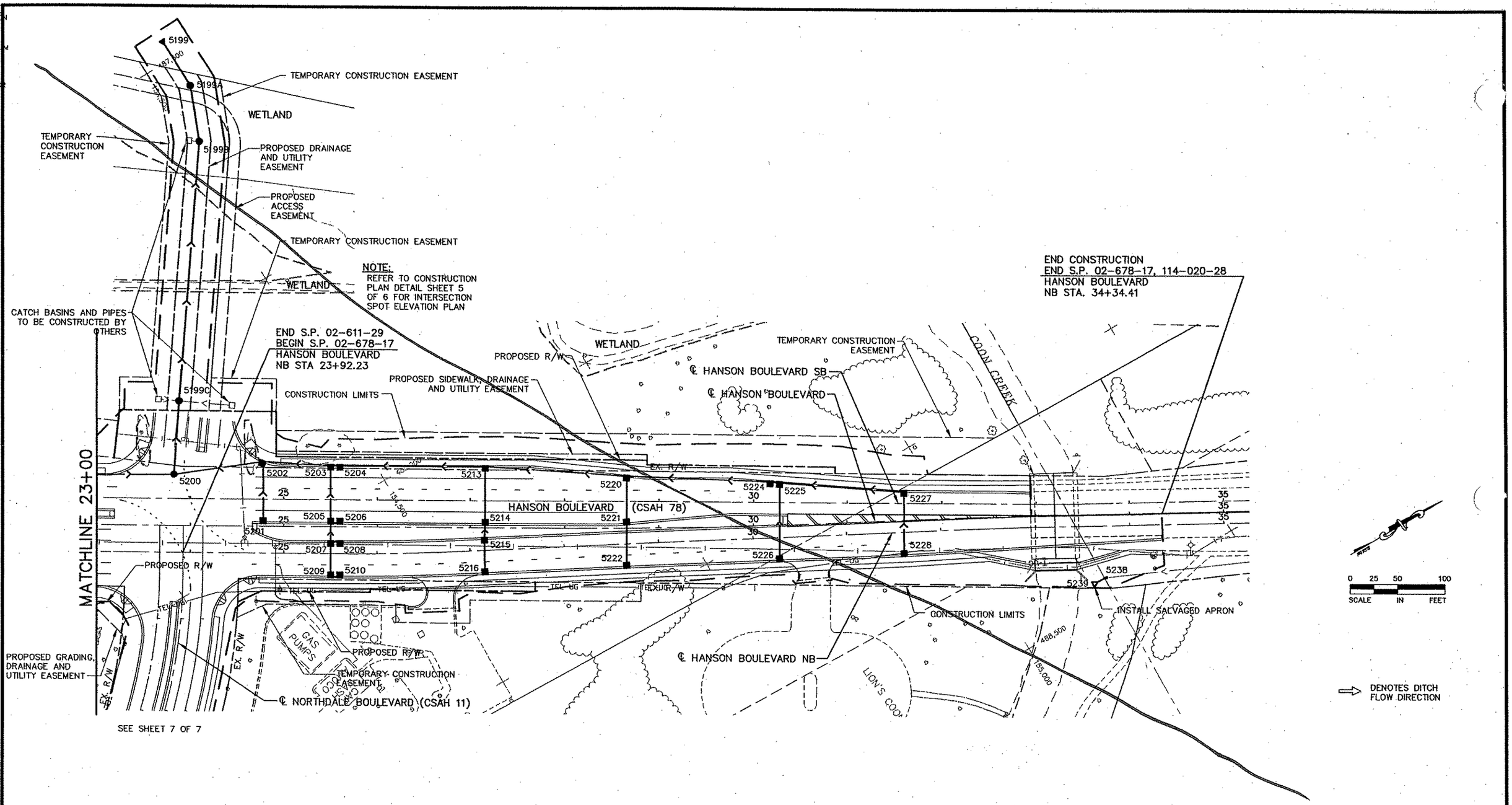
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE PLAN
HANSON BOULEVARD
STATION 3+16.41 TO STATION 23+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 227 / 681

PLOT DATE: Jan 2007 10:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ST1.dwg



SEE SHEET 7 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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DRAWN BY: PMJ/ELJ
DESIGN BY: JCD
CHKED. BY: SAW
DWG. NAME: ST-HNSN02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE PLAN
HANSON BOULEVARD
STATION 23+00.00 TO STATION 34+34.41

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

2 OF

SHEET NO. 228

681

PLOT DATE: Jan. .007 10:17am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-S: 02.dwg

Xref'd Drawings
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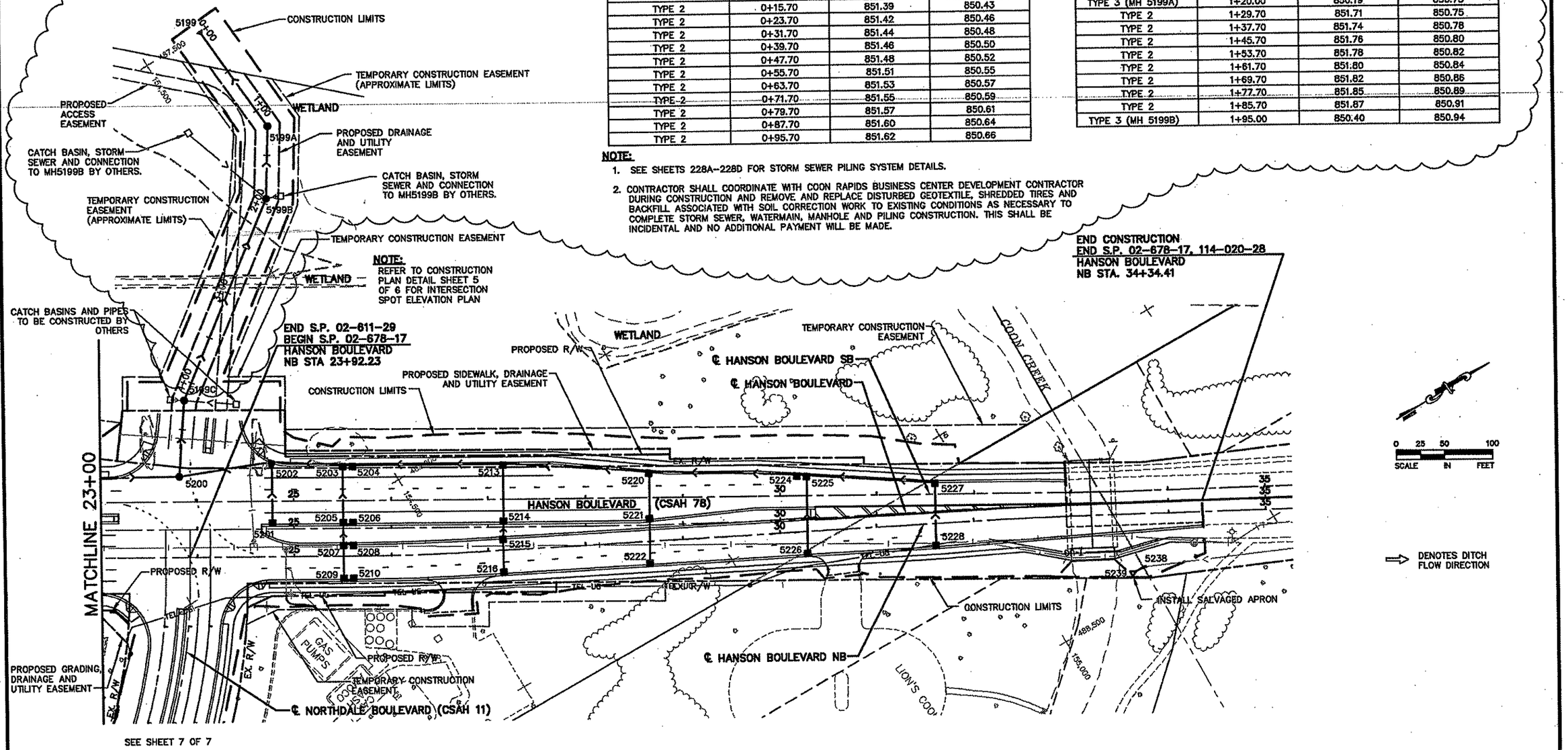
HNSN-PCD
HNSN-PUT
PRD-ESM
HNSN-CON-LM
hnsn-pwg
HNSN-ETG
HNSN-EUT
HNSN-ALI
REF-DWG-BDR
HNSN-ESU
22x34bdr

PILE BENT LOCATION TABLE			
PILE BENT CLASSIFICATION	CENTERLINE STORM SEWER STATION	TOP OF PILE CAP ELEVATION	PIPE INVERT ELEVATION
TYPE 1 (APRON 5199)	0+01.50	851.35	850.39
TYPE 2	0+07.70	851.37	850.41
TYPE 2	0+15.70	851.39	850.43
TYPE 2	0+23.70	851.42	850.46
TYPE 2	0+31.70	851.44	850.48
TYPE 2	0+39.70	851.46	850.50
TYPE 2	0+47.70	851.48	850.52
TYPE 2	0+55.70	851.51	850.55
TYPE 2	0+63.70	851.53	850.57
TYPE 2	0+71.70	851.55	850.59
TYPE 2	0+79.70	851.57	850.61
TYPE 2	0+87.70	851.60	850.64
TYPE 2	0+95.70	851.62	850.66

PILE BENT LOCATION TABLE			
PILE BENT CLASSIFICATION	CENTERLINE STORM SEWER STATION	TOP OF PILE CAP ELEVATION	PIPE INVERT ELEVATION
TYPE 2	1+03.70	851.64	850.68
TYPE 2	1+11.70	851.66	850.70
TYPE 3 (MH 5199A)	1+20.00	850.19	850.73
TYPE 2	1+29.70	851.71	850.75
TYPE 2	1+37.70	851.74	850.78
TYPE 2	1+45.70	851.76	850.80
TYPE 2	1+53.70	851.78	850.82
TYPE 2	1+61.70	851.80	850.84
TYPE 2	1+69.70	851.82	850.86
TYPE 2	1+77.70	851.85	850.89
TYPE 2	1+85.70	851.87	850.91
TYPE 3 (MH 5199B)	1+95.00	850.40	850.94

NOTE:

1. SEE SHEETS 228A–228D FOR STORM SEWER PILING SYSTEM DETAILS.
2. CONTRACTOR SHALL COORDINATE WITH COON RAPIDS BUSINESS CENTER DEVELOPMENT CONTRACTOR DURING CONSTRUCTION AND REMOVE AND REPLACE DISTURBED GEOTEXTILE, SHREDDED TIRES AND BACKFILL ASSOCIATED WITH SOIL CORRECTION WORK TO EXISTING CONDITIONS AS NECESSARY TO COMPLETE STORM SEWER, WATERMAIN, MANHOLE AND PILING CONSTRUCTION. THIS SHALL BE INCIDENTAL AND NO ADDITIONAL PAYMENT WILL BE MADE.



SEE SHEET 7 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	4/10/07	REALIGNED STORM, ADDED PILING PER L–0001

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ
DESIGN BY: JCD
CHKED. BY: SAW
DWG. NAME: ST–HNSN02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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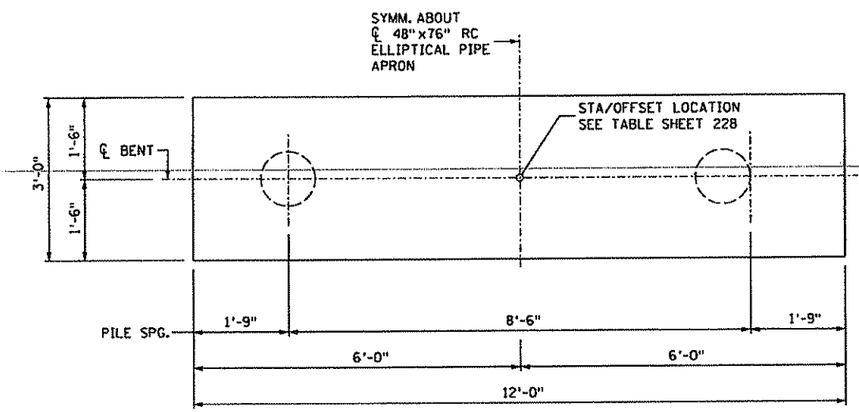
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19881

TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE PLAN
HANSON BOULEVARD
STATION 23+00.00 TO STATION 34+34.41

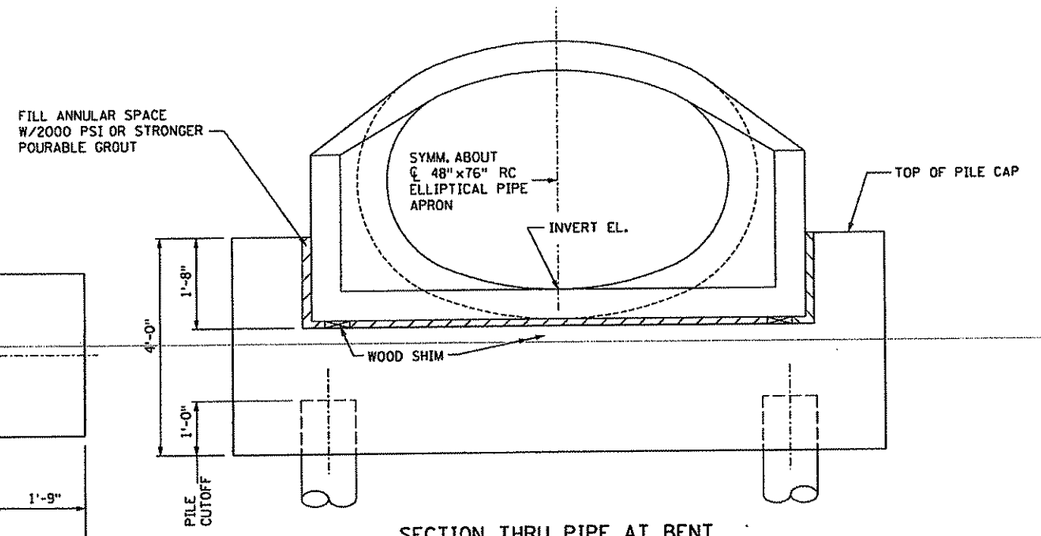
CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 228 / 681

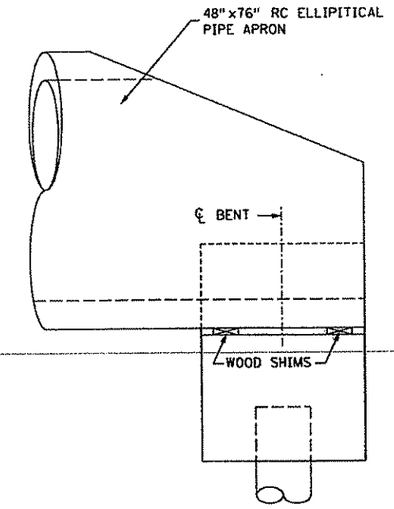
PLOT DATE: Apr 10, 2007 8:39am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ST-hnsn02.dwg



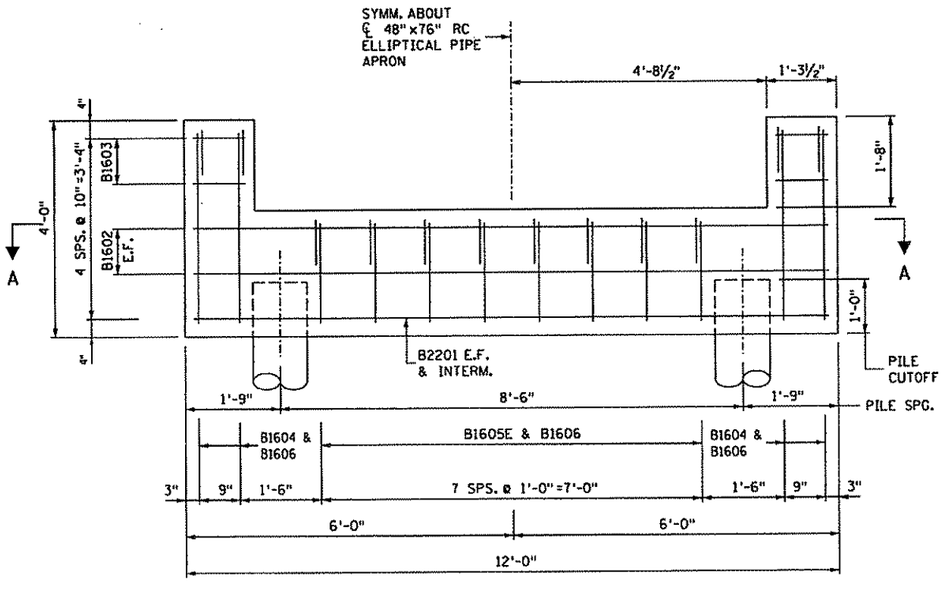
SECTION A-A



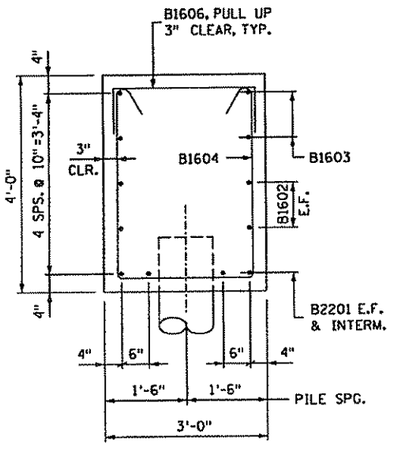
SECTION THRU PIPE AT BENT



ELEVATION OF PIPE AT BENT



ELEVATION



END VIEW

PILE NOTES

2 CAST-IN-PLACE CONC. PILES 60 FT. LONG REQ'D FOR PILE BENT TYPE 1

PILE SPACING SHOWN IS AT BOTTOM OF CAP.

PILES TO HAVE A NOMINAL DIAMETER OF 12".

FOR PILE SPLICE DETAILS SEE DETAIL B201.

CONTRACTOR HAS THE OPTION OF SUPPLYING 9⅝" DIA. C.I.P. CONC. PILES FOR PILE BENT TYPE 1. IF 9⅝" DIA. PILES ARE USED THE PILE SHALL HAVE AN EST. LENGTH OF 85 FEET AND SHALL BE DRIVEN TO THE FOLLOWING LOADS:

DEAD LOAD + EARTH LOAD	10.5
LIVE LOAD	9.0
DOWN DRAG	2.5
DESIGN LOAD	22.0

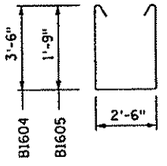
PILE BENT TYPE 1	
COMPUTED PILE LOAD TONS/PILE	
DEAD LOAD + EARTH	10.5
LIVE LOAD	9.0
DOWN DRAG	3.0
DESIGN LOAD	22.5

BILL OF REINFORCEMENT FOR PILE BENT TYPE 1

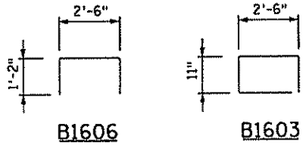
BAR	NO.	LENGTH	SHAPE	LOCATION
B2201	4	11'-6"	——	HORIZONTAL
B1602	4	11'-6"	——	HORIZONTAL
B1603	4	6'-10"	▭	HORIZONTAL
B1604	4	10'-5"	⊓	STIRRUP
B1605	8	6'-11"	⊓	STIRRUP
B1606	12	4'-10"	⊓	TIE

SUMMARY OF QUANTITIES FOR PILE BENTS TYPE 1

STRUCTURAL CONCRETE (1A43)	4 CU. YD.
REINFORCEMENT BARS	330 POUND
C-I-P CONC. PILING DELIVERED 12"	120 LIN. FT.
C-I-P CONC. PILING DRIVEN 12"	120 LIN. FT.



B1604 & B1605



B1606 B1603

NOTES:

FOR BENT STATIONS AND TOP OF PILE ELEVATIONS, SEE SHEET 228.
PILE CAPS SHALL BE PERPENDICULAR TO CENTERLINE OF STORM SEWER.
THE CONTRACTOR HAS THE OPTION OF USING PRECAST CONCRETE PILE CAPS FOR ALL BENTS.
THE GROUT, WOOD SHIMS ARE INCIDENTAL.

S.P. NO. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

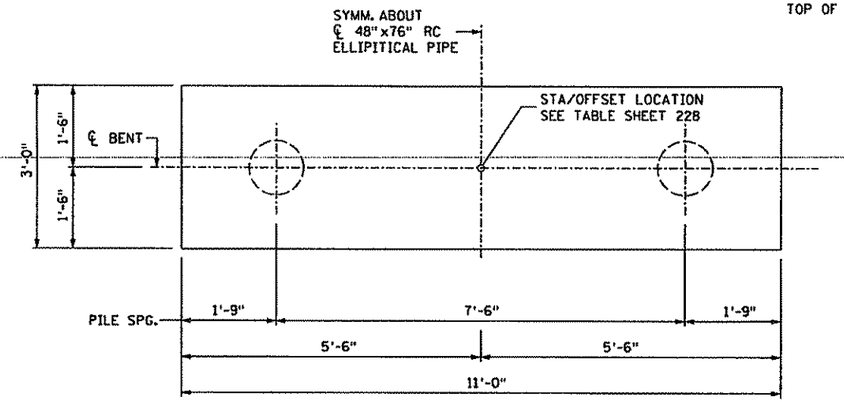
SIGNATURE:
PRINTED NAME: ERIC M. EVENSON
DATE: APRIL 10, 2007 REG. NO. 43120

TITLE: PILE BENT TYPE 1 (APRON 5199)

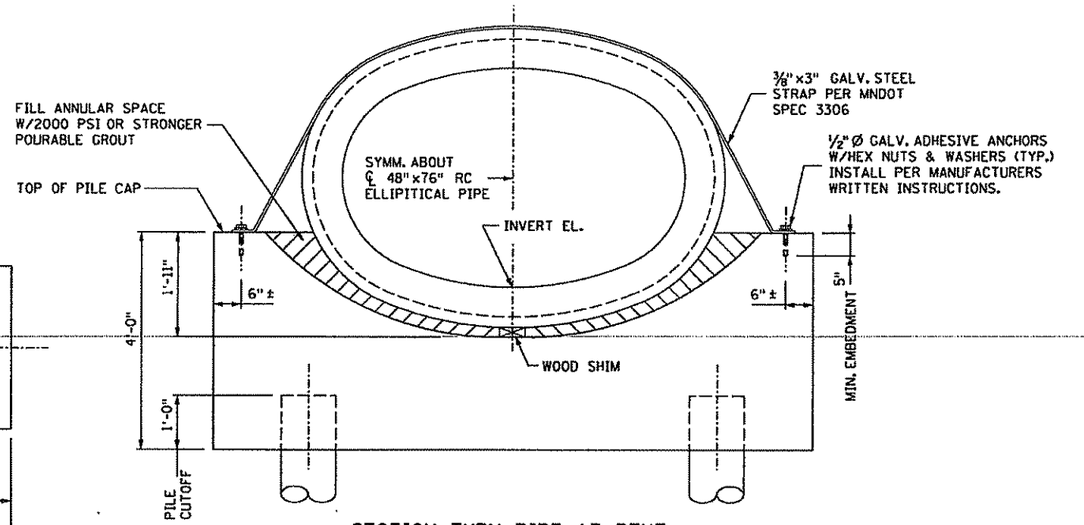
DES: EME	DR: DM	APPROVED:
CHK: DDL	CHK: EME	

SHEET NO. 228A OF 681 SHEETS

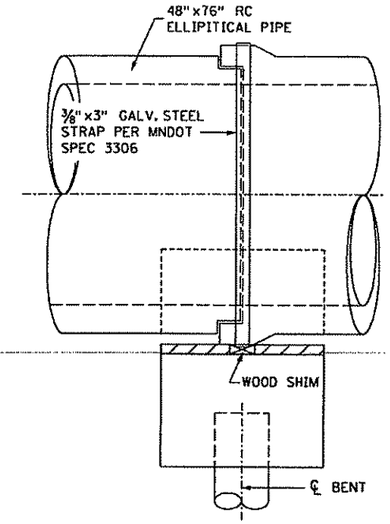
04/10/2007 10:00:14 AM \\ursmsp\data\infrastructure\33889\33889042\construction\structures\pln-sht\sht2.dgn



SECTION A-A

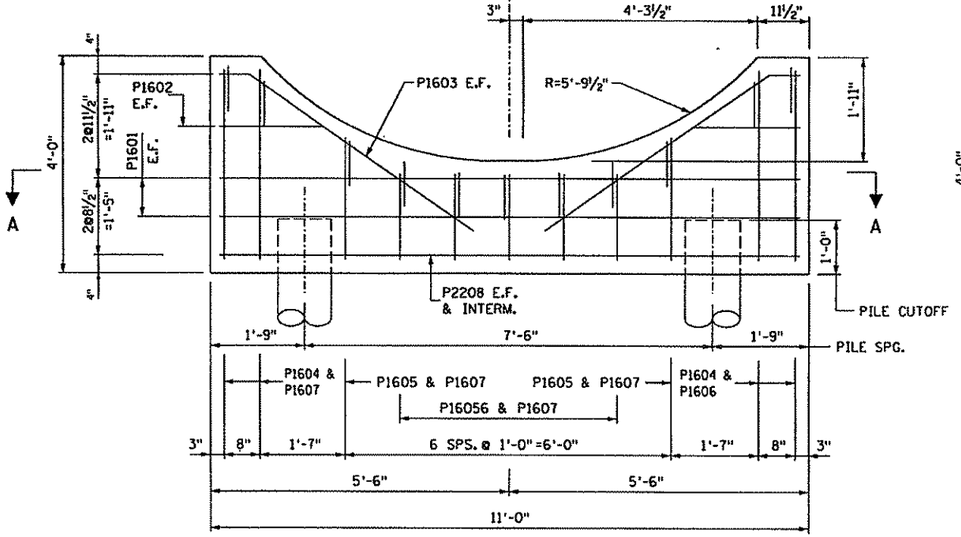


SECTION THRU PIPE AT BENT

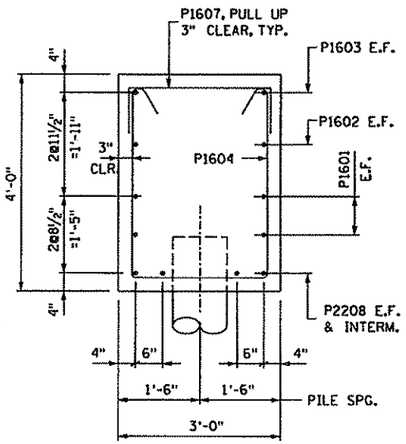


ELEVATION OF PIPE AT BENT

PILE BENT TYPE 2	
COMPUTED PILE LOAD TONS/PILE	
DEAD LOAD + EARTH	22.0
LIVE LOAD	3.5
DOWN DRAG	6.0
DESIGN LOAD	31.5



ELEVATION



END VIEW

PILE NOTES

3 CAST-IN-PLACE CONC. TEST PILES 80 FT. LONG

41 CAST-IN-PLACE CONC. PILES 70 FT., EST LENGTH

PILE SPACING SHOWN IS AT BOTTOM OF CAP.

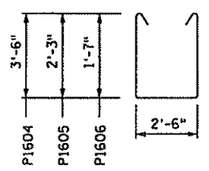
PILES TO HAVE A NOMINAL DIAMETER OF 12".

FOR PILE SPLICE DETAILS SEE DETAIL B201.

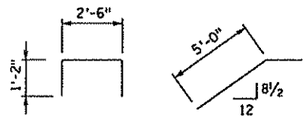
CONTRACTOR HAS THE OPTION OF SUPPLYING 9⅝" DIA. C.I.P. CONC. PILES FOR PILE BENT TYPE 2. IF 9⅝" DIA. PILES ARE USED THE TEST PILES SHALL BE 110 FEET LONG AND THE SERVICE PILE SHALL HAVE AN EST. LENGTH OF 100 FEET. PILING SHALL BE DRIVEN TO THE FOLLOWING LOADS:

DEAD LOAD + EARTH LOAD	22.0
LIVE LOAD	3.5
DOWN DRAG	5.0
DESIGN LOAD	30.5

ONE PILE FROM EACH OF THE FOLLOWING PILE BENTS SHALL BE TEST PILES; 0+31.70, 1+03.70 AND 1+61.70



P1604, P1605 & P1606



P1607 P1603

BILL OF REINFORCEMENT FOR PILE BENT TYPE 2

BAR	NO.	LENGTH	SHAPE	LOCATION
P1601	88	10'-6"	——	HORIZONTAL
P1602	88	1'-11"	——	HORIZONTAL
P1603	88	5'-7"	⌐	HORIZONTAL
P1604	88	10'-5"	⊔	STIRRUP
P1605	44	7'-11"	⊔	STIRRUP
P1606	110	6'-7"	⊔	STIRRUP
P1607	242	4'-8"	⊓	TIE
P2208	88	10'-6"	——	HORIZONTAL

SUMMARY OF QUANTITIES FOR PILE BENTS TYPE 2

	STRUCTURAL CONCRETE (1A43)	78 CU. YD.
	REINFORCEMENT BARS	6800 POUND
①	C-I-P CONC. PILING DELIVERED 12"	2870 LIN. FT.
①	C-I-P CONC. PILING DRIVEN 12"	2870 LIN. FT.
	C-I-P CONC. TEST PILE 80 FT. LONG 12"	3 EACH

① DOES NOT INCLUDE TEST PILES.

NOTES:

FOR BENT STATIONS AND TOP OF PILE ELEVATIONS, SEE SHEET 228.
PILE CAPS SHALL BE PERPENDICULAR TO CENTERLINE OF STORM SEWER.
THE CONTRACTOR HAS THE OPTION OF USING PRECAST CONCRETE PILE CAPS FOR ALL BENTS.
THE STEEL STRAP, ADHESIVE ANCHORS, NUTS, WASHERS, WOOD SHIMS AND GROUT IS INCIDENTAL.

S.P. NO. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

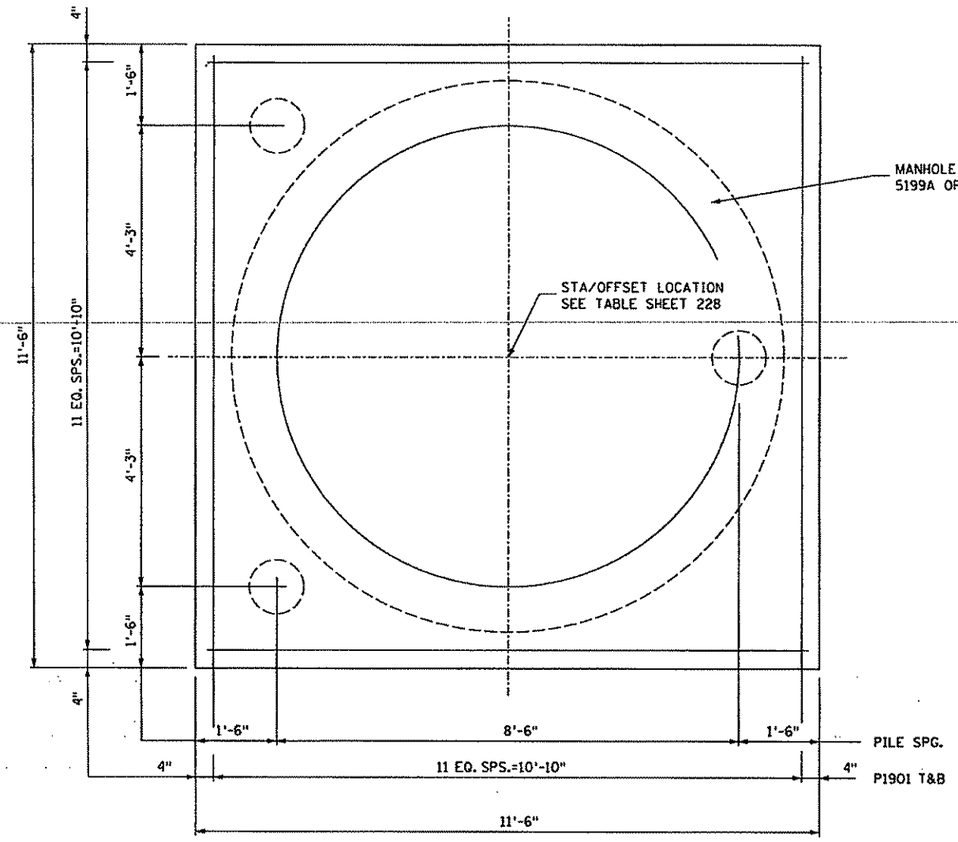
SIGNATURE:
PRINTED NAME: ERIC M. EVENSON
DATE: APRIL 10, 2007 REG. NO. 43120

TITLE: PILE BENT TYPE 2

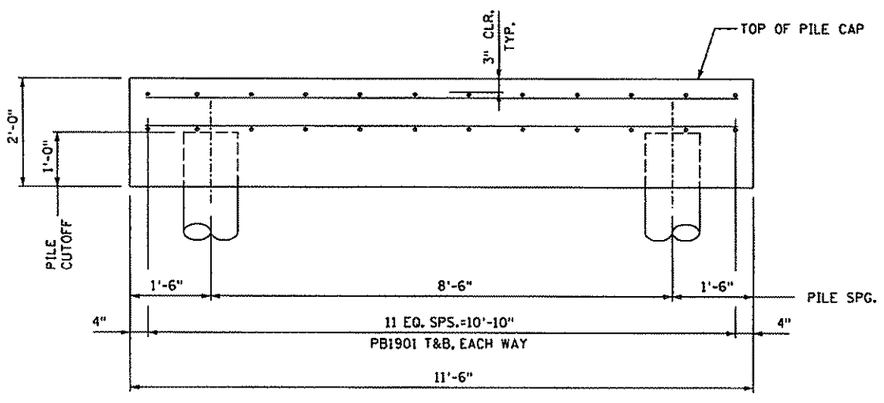
DES: EME	DR: DM	APPROVED:
CHK: DDL	CHK: EME	

SHEET NO. 228B OF 681 SHEETS

04/10/2007 02:39:07 PM \\ursmsp\data\infrastructure\33889\33889042\Construction\Structures\Pile-sht\sht1.dgn



PLAN VIEW



ELEVATION

PILE NOTES

6 CAST-IN-PLACE CONC. PILES 60 FT., EST LENGTH

PILE SPACING SHOWN IS AT BOTTOM OF CAP.

PILES TO HAVE A NOMINAL DIAMETER OF 12".

FOR PILE SPLICE DETAILS SEE DETAIL B201.

CONTRACTOR HAS THE OPTION OF SUPPLYING 9⅝" DIA. C.I.P. CONC. PILES FOR PILE BENT TYPE 3. IF 9⅝" DIA. PILES ARE USED THE SERVICE PILE SHALL HAVE AN EST. LENGTH OF 85 FEET. PILING SHALL BE DRIVEN TO THE FOLLOWING LOADS:

DEAD LOAD + EARTH LOAD	11.5
LIVE LOAD	5.0
DOWN DRAG	2.5
DESIGN LOAD	19.0

PILE BENT TYPE 3	
COMPUTED PILE LOAD TONS/PILE	
DEAD LOAD + EARTH	11.5
LIVE LOAD	5.0
DOWN DRAG	3.0
DESIGN LOAD	19.5

BILL OF REINFORCEMENT FOR PILE BENT TYPE 3

BAR	NO.	LENGTH	SHAPE	LOCATION
P1901	96	11'-0"	———	HORIZONTAL

SUMMARY OF QUANTITIES FOR PILE BENTS TYPE 3

STRUCTURAL CONCRETE (1A43)	20 CU. YD.
REINFORCEMENT BARS	1590 POUND
C-I-P CONC. PILING DELIVERED 12"	360 LIN. FT.
C-I-P CONC. PILING DRIVEN 12"	360 LIN. FT.

NOTES:

FOR BENT STATIONS AND TOP OF PILE BENT ELEVATIONS, SEE SHEET 228.

THE CONTRACTOR HAS THE OPTION OF USING PRECAST CONCRETE PILE CAPS FOR ALL BENTS.

S.P. NO. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

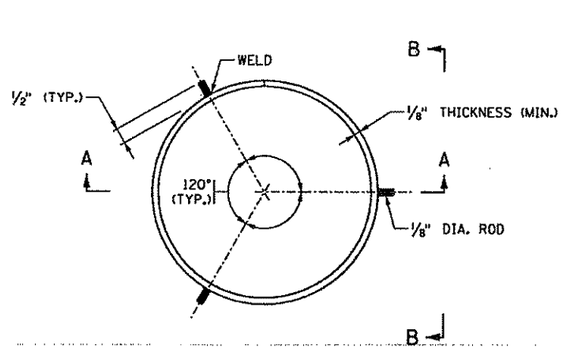
SIGNATURE: [signature]
PRINTED NAME: ERIC M. EVENSON
DATE: APRIL 10, 2007 REG. NO. 43120

TITLE: PILE BENT TYPE 3 (MH 5199A & MH 5199B)

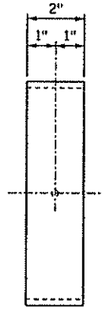
DES: EME DR: DM APPROVED:
CHK: DDL CHK: EME

SHEET NO. 228C OF 681 SHEETS

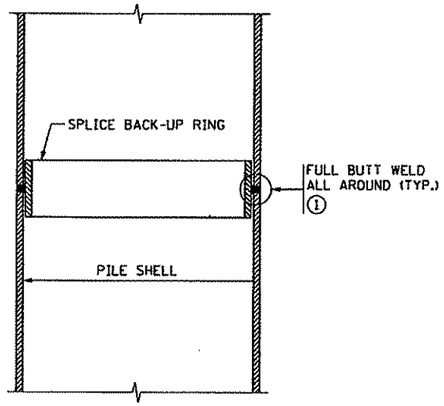
04/10/2007 10:00:17 AM \\ursmsp\data\Infrastructure\33889\33889042\Construction\Structures\Pln-sht\sht3.dgn



PLAN VIEW SPLICE
PILE NOT SHOWN



SECTION B-B
PILE NOT SHOWN



SECTION A-A

NOTES:

APPROVED COMMERCIAL PILE SPLICE BACK-UP RING MAY BE USED IN LIEU OF THE TYPE DETAILED. BACK-UP RING SHALL HAVE A TIGHT FIT.

WELDING ELECTRODES SHALL BE CELLULOSIC TYPE ELECTRODES E-6010 OR E-6011.

ELECTRODES WHICH HAVE BECOME WET, SOILED OR DAMAGED SHALL NOT BE USED.

WELDING SHALL NOT BE DONE WHEN THE AMBIENT TEMPERATURE IS LOWER THAN 0° F. OR WHEN THE PILE IS WET OR EXPOSED TO FALLING RAIN OR SNOW. WHEN THE PILE METAL TEMPERATURE IS BELOW 32° F., THE PILE METAL IN THE AREA OF THE WELD SHALL BE HEATED TO A MINIMUM TEMPERATURE OF 70° F. AND MAINTAINED AT THIS TEMPERATURE DURING WELDING.

(1) FOR PILE SHELL THICKNESSES GREATER THAN 1/2". USE A B-U4a WELD CONFIGURATION.

APPROVED: NOVEMBER 22, 2002	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Daniel D. Morgan STATE BRIDGE ENGINEER	PILE SPLICE (CAST-IN-PLACE CONCRETE PILES)		B201

S.P. NO. 0215-59, 02-611-29, 114-010-14, 114-020-28

URS
Thresher Square
700 South Third Street
Minneapolis, MN 55415

SIGNATURE:
PRINTED NAME: ERIC M. EVENSON
DATE: APRIL 10, 2007 REG. NO. 43120

TITLE: PILE BENT DETAILS

DES: EME	DR: DM	APPROVED:	
CHK: DDL	CHK: EME		

SHEET NO. 228D OF 681 SHEETS

04/10/2007 10:00:19 AM \\ursmsp\data\Infrastructure\33869\33889042\construction\structures\pln-sht\sht4.dgn

Xref'd Drawings
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HNSN-PUT
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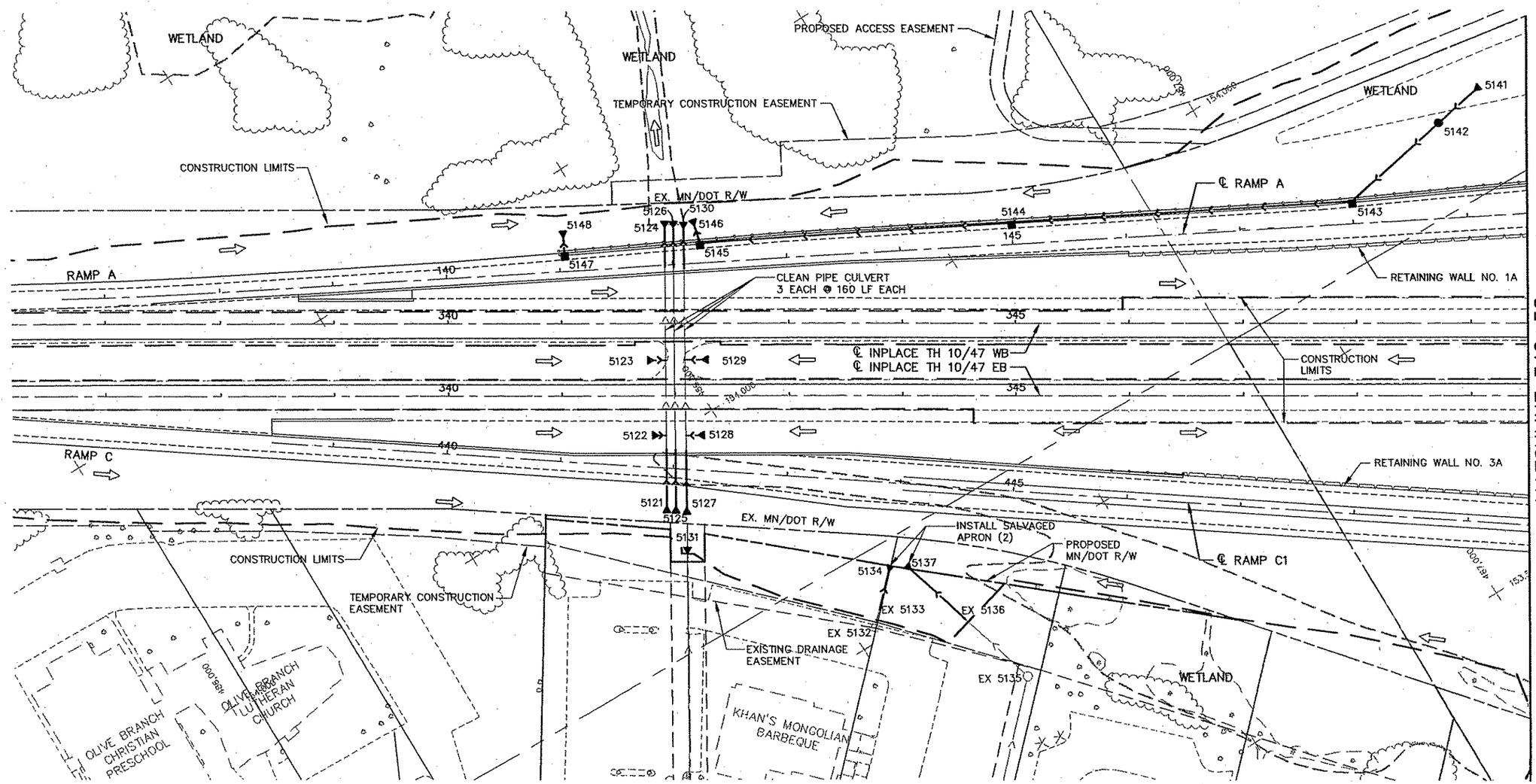
HNSN-PCO
PRD-ESM
HNSN-EUT
HNSN-ETO
-WETL
HNSN
22x34



PLOT DATE: Jan 307 10:15am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ST01.DWG

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: ST-HWY01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

DRAINAGE PLAN

HIGHWAY 10/47 AND RAMPS A-D
STATION 337+50.00 TO STATION 349+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 229 / 681

Xref'd Drawings
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HNSN-WALLS
HNSN-PUT
hnsn-psg
HNSN-PCO
PRD-ESM
HNSN-EUT
HNSN-ETO
HNSN-ALI
HNSN-
REF-
HNSN
22x34

MATCHLINE 349+50

MATCHLINE 361+50

HANSON BOULEVARD (CSAH 10)

EX. MN/DOT R/W

CONSTRUCTION LIMITS

TEMPORARY CONSTRUCTION EASEMENT

NOTE:
REFER TO CONSTRUCTION PLAN DETAIL SHEETS 2–4 OF 6 FOR INTERSECTION SPOT ELEVATION PLAN

℄ RAMP A

℄ CONNECTION A

℄ CONNECTION B

℄ RAMP B2

℄ RAMP B1

℄ RAMP C2

℄ RAMP C1

℄ CONNECTION C

℄ CONNECTION D

℄ RAMP D

ABUTMENT DRAIN (SEE BRIDGE PLANS)

RETAINING WALL NO. 1A

RETAINING WALL NO. 1B

RETAINING WALL NO. 2A

RETAINING WALL NO. 2B

RETAINING WALL NO. 3A

RETAINING WALL NO. 3B

RETAINING WALL NO. 4A

RETAINING WALL NO. 4B

℄ INPLACE TH 10/47 WB

℄ INPLACE TH 10/47 EB

WETLAND

METRO MOLDED PARTS

JAY ST.

ABRA AUTO BODY

0 25 50 100
SCALE IN FEET

⇨ DENOTES DITCH FLOW DIRECTION

4 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: PMJ/ELJ
DESIGN BY: JCD
CHKED. BY: SAW
DWG. NAME: ST–HWY02
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE PLAN
HIGHWAY 10/47 AND RAMPS A–D
STATION 349+50.00 TO STATION 361+50.00

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 230 / 681

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PRD-ESM
HNSN-EUT
HNSN-ETO
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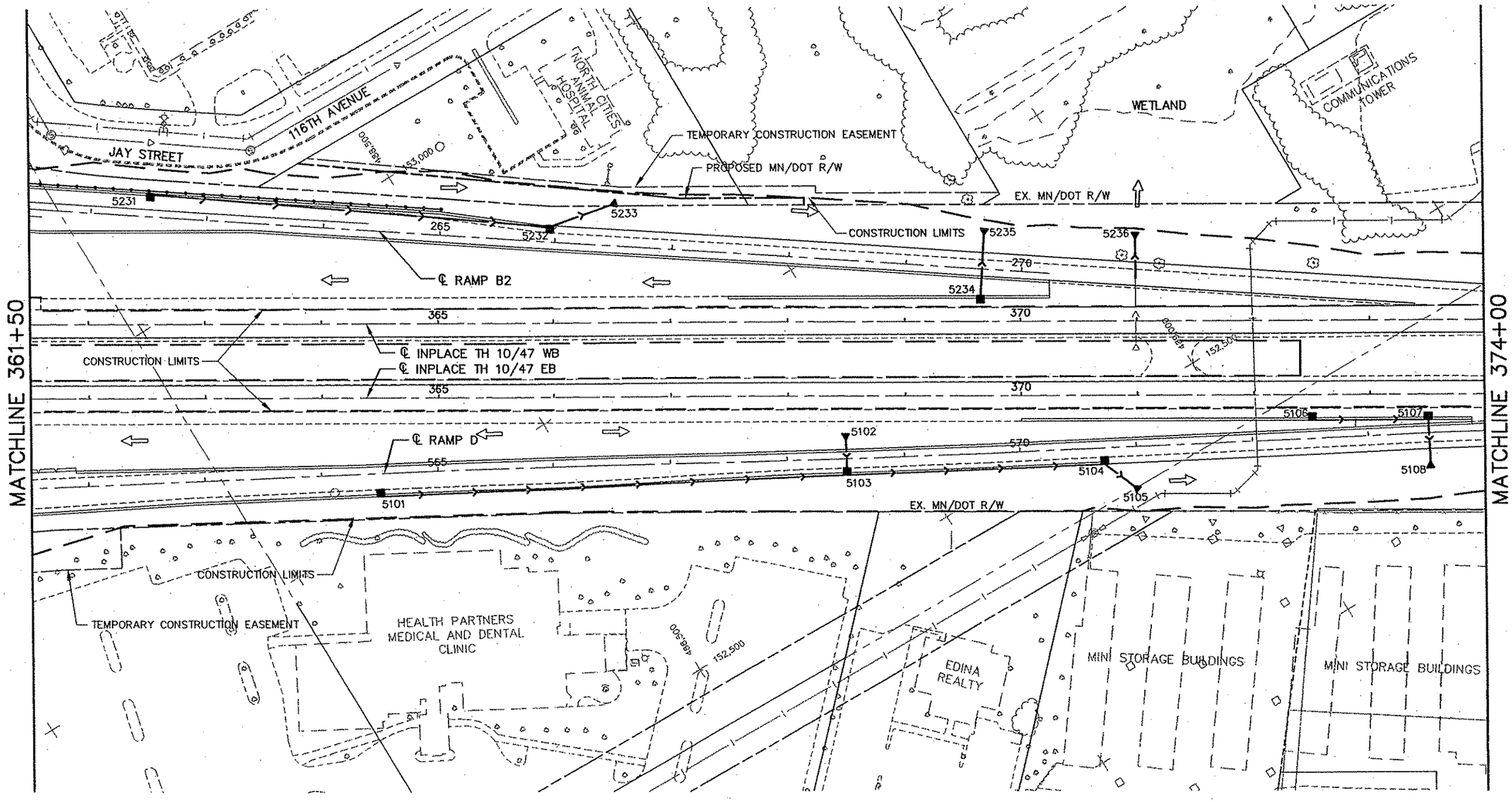

5 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ
DESIGN BY: JCD
CHKED. BY: SAW
DWG. NAME: ST-HWY03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

DRAINAGE PLAN

HIGHWAY 10/47 AND RAMPS A-D
STATION 361+50.00 TO STATION 374+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 231 / 681

PLOT DATE: Jan .007 10:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ST 3.dwg

Xref'd Drawings
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PRD-ESM
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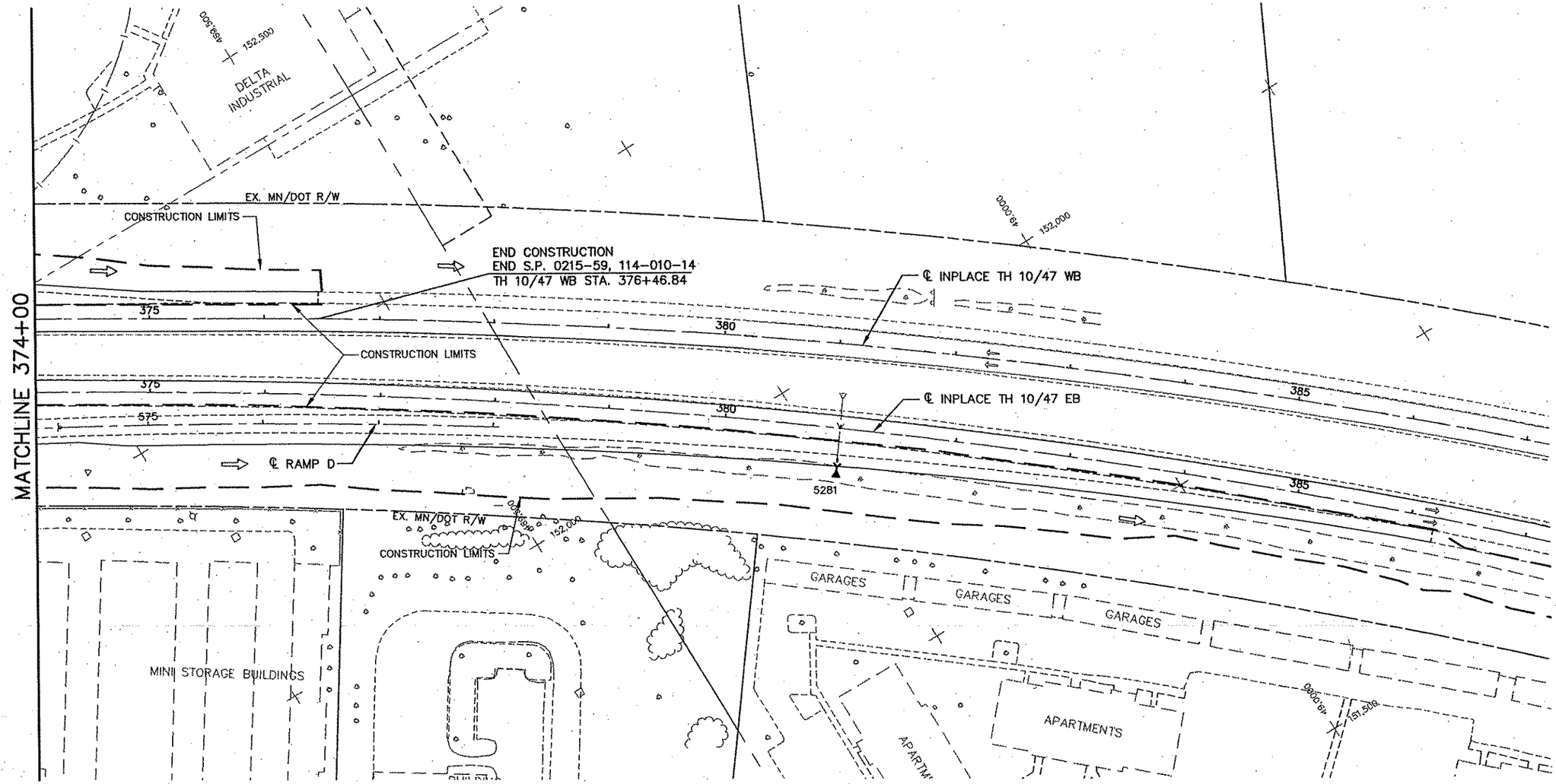
HNSN-ETO
HNSN-ALI
HNSN-CON-LM
REF-P[illegible]
HNSN
22x3



THE ONLY DRAINAGE WORK BETWEEN STATION 386+20.49 AND 392+22.83. IS DITCH REGRADING. SEE HIGHWAY 10/47 PROFILE AND CROSS SECTION SHEETS FOR DITCH PROFILE AND SPOT ELEVATIONS.

END CONSTRUCTION
END S.P. 0215-59, 114-010-14
TH 10/47 EB STA. 392+22.83

⇨ DENOTES DITCH FLOW DIRECTION

6 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: ST-HWY04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.0376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE PLAN
HIGHWAY 10/47 AND RAMPS A-D
STATION 374+00.00 TO STATION 386+20.49

CITY PROJECT	01-31	S.P.	0215-59	SHEET NO. 232 / 681
S.P.	02-678-17	S.P.	02-611-29	
		S.P.	114-020-28	
		S.P.	114-010-14	

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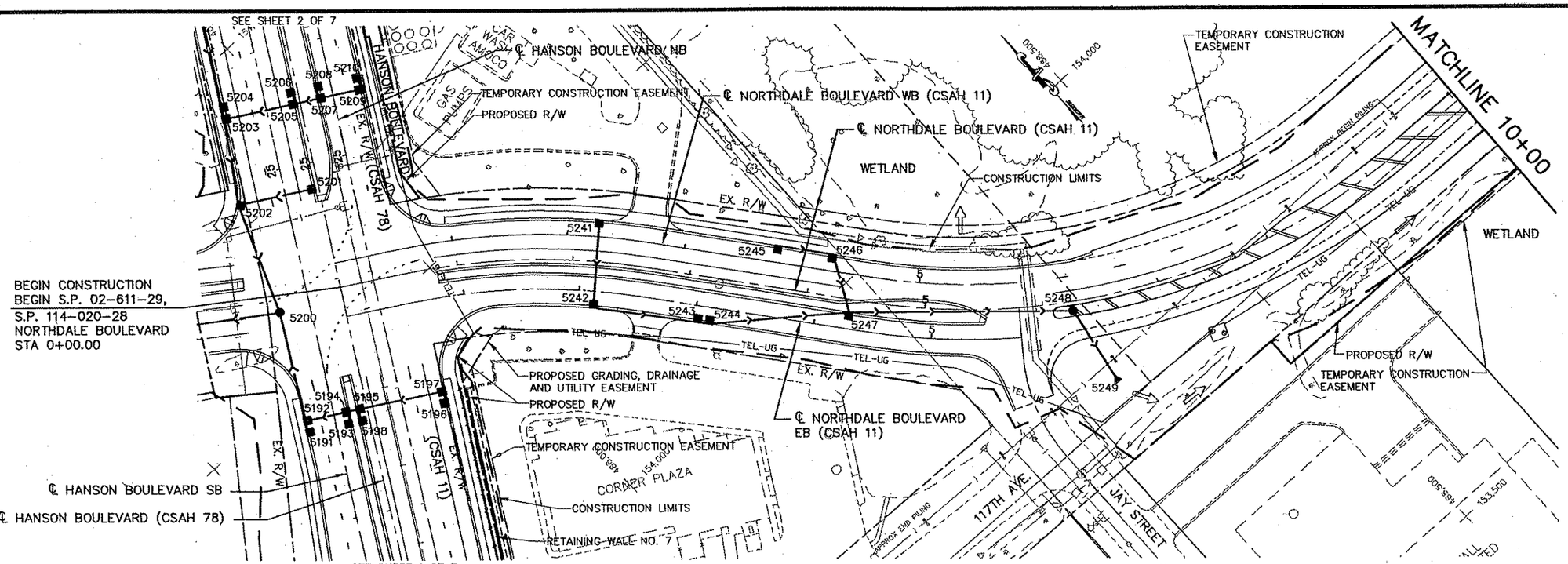
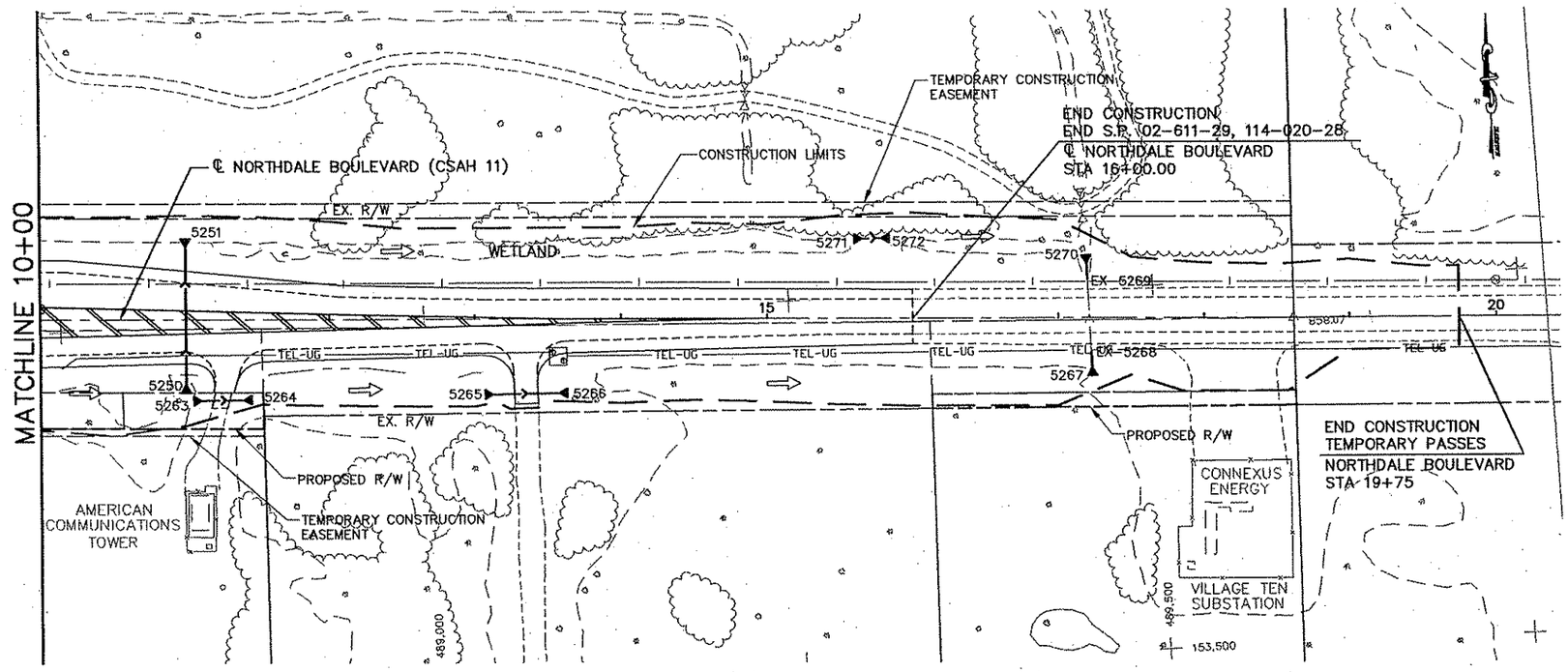


NOTE: TIE ALL PIPE JOINTS ON NORTHDALE SEWER SYSTEM



0 25 50 100
SCALE IN FEET

⇨ DENOTES DITCH FLOW DIRECTION

7 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ/ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: ST-NNDALE01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

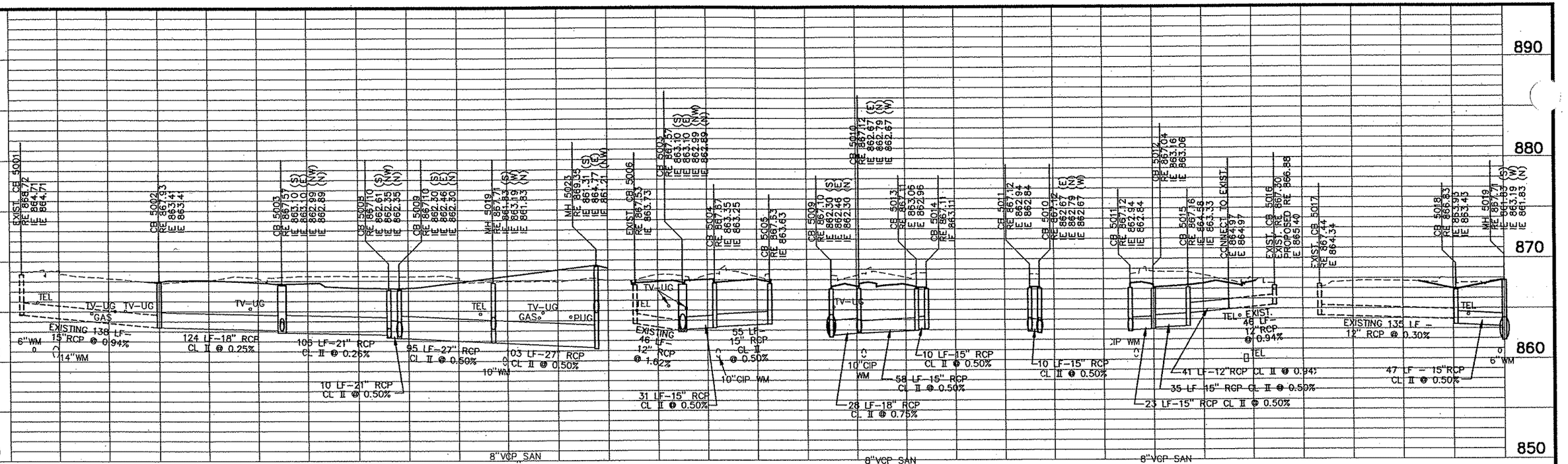
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE PLAN
NORTHDALE BOULEVARD
STATION 0+00.00 TO STATION 19+75.00

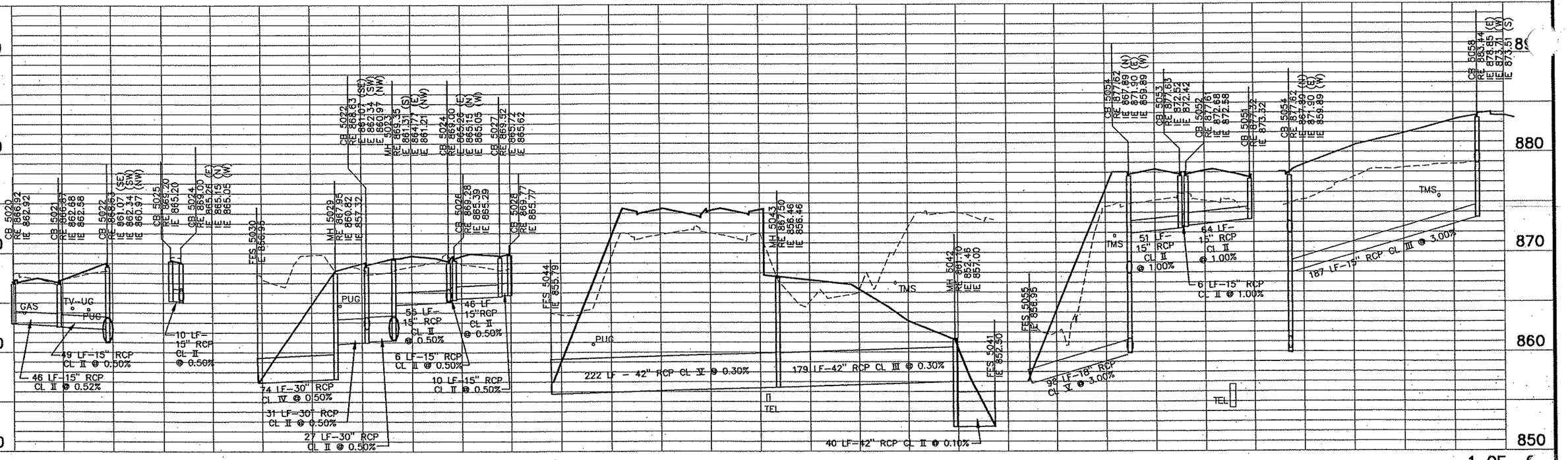
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 233 / 681

Xref'd Drawings
Grid22x34
ISN-drnprf
F-DWG-BDR
x34bdr



NOTE: LENGTH OF PIPE INCLUDES LENGTH OF FLARED END SECTIONS



1 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: 042STPRF01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

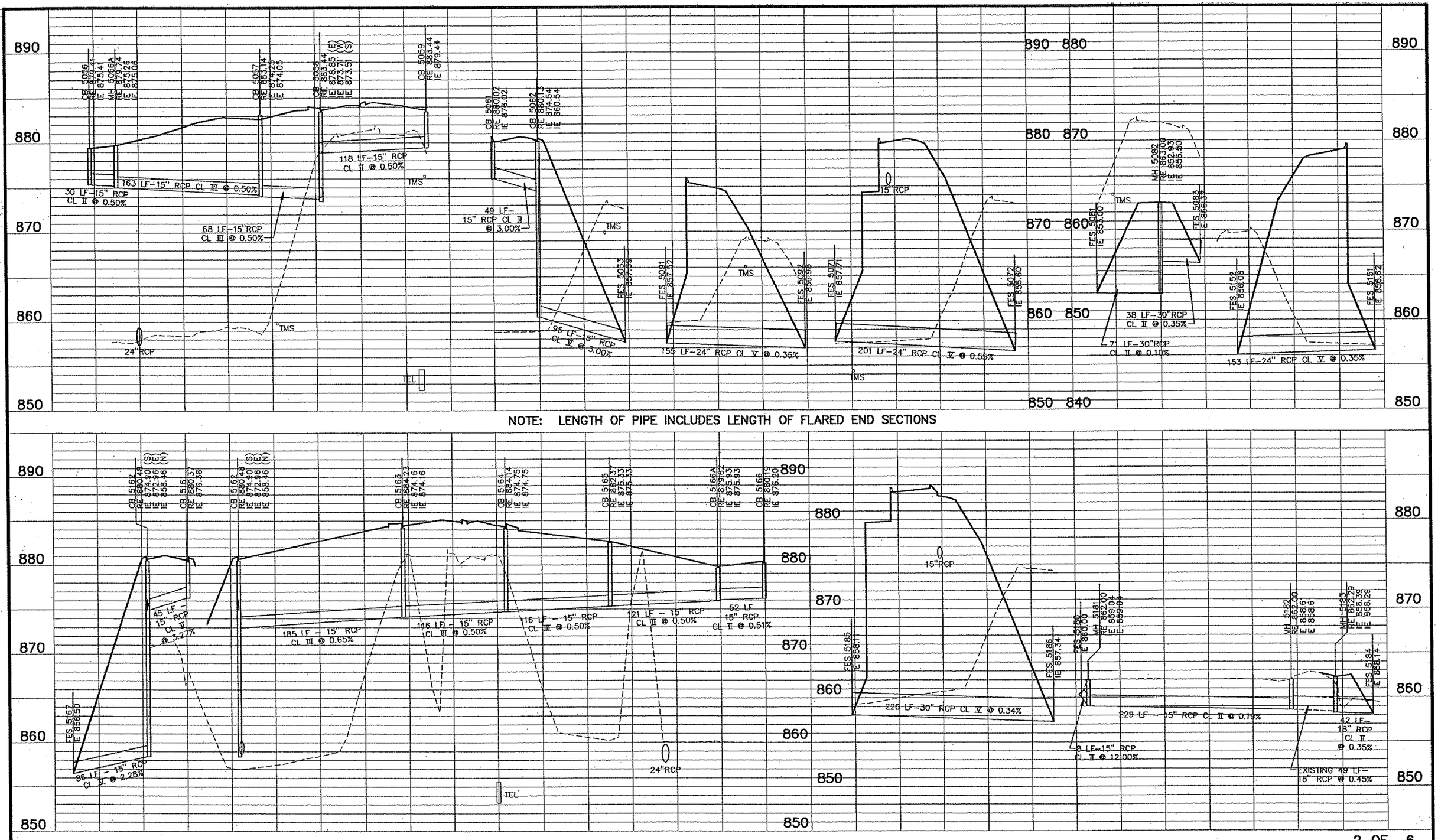
TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE PROFILES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 234 / 681

PLOT DATE: Jan .007 10:19am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042STPF 9

Xref's Drawings
Grid22x34
SN-drnprf
F-DWG-BDR
x34bdr



NOTE: LENGTH OF PIPE INCLUDES LENGTH OF FLARED END SECTIONS

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: 042STPRF02
DATE: JANUARY 8, 2007

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

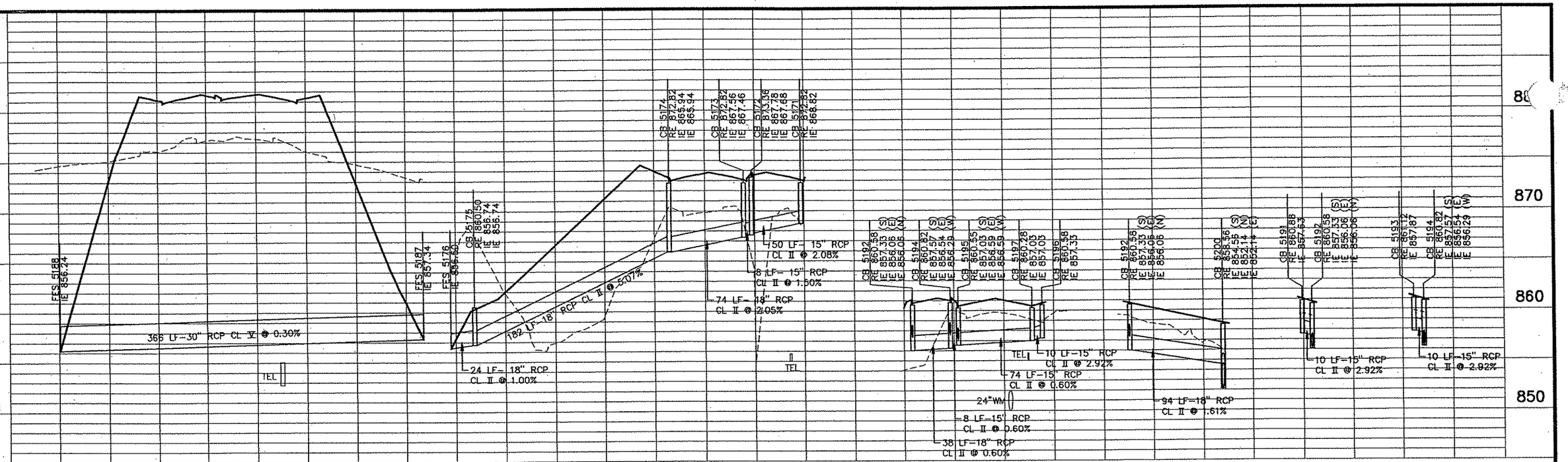
TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE PROFILES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

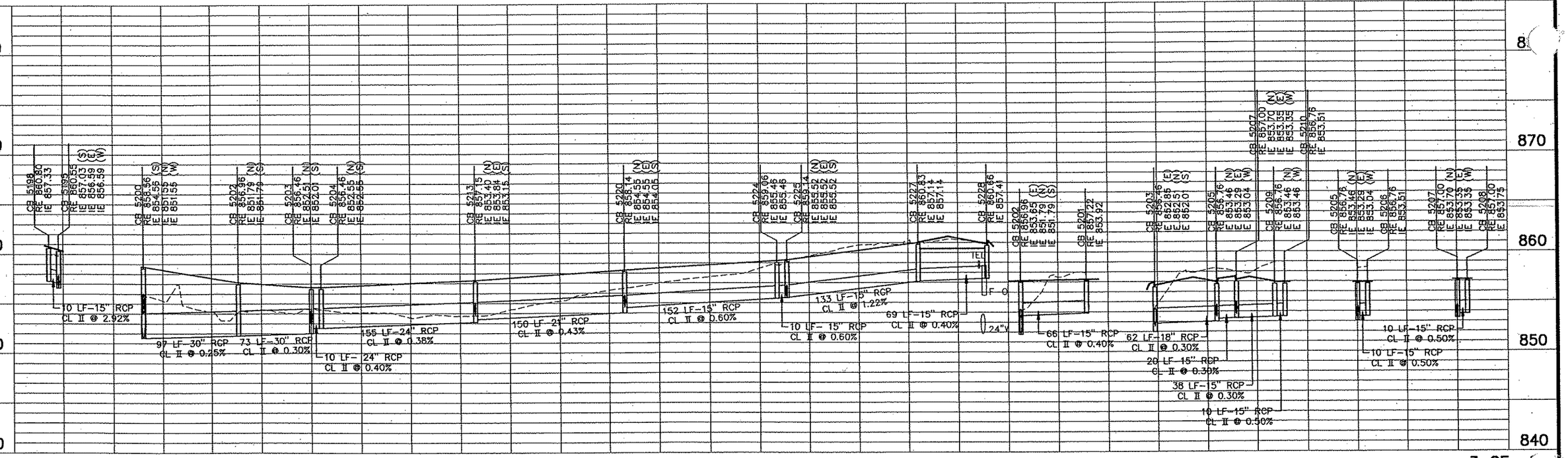
SHEET NO. 235 / 681

PLOT DATE: Jan .007 10:20am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRO-CONST\042STP vg

Xref'd Drawings
STGrid22x34
HNSN-drnprf
REF-DWG-BDR
22x34bdr



NOTE: LENGTH OF PIPE INCLUDES LENGTH OF FLARED END SECTIONS



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042	
DRAWN BY: IKR	DESIGN BY: JCD
CHKED. BY: SAW	DWG. NAME: 042STPRF03
DATE: JANUARY 8, 2007	

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Minneapolis, MN 55415
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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

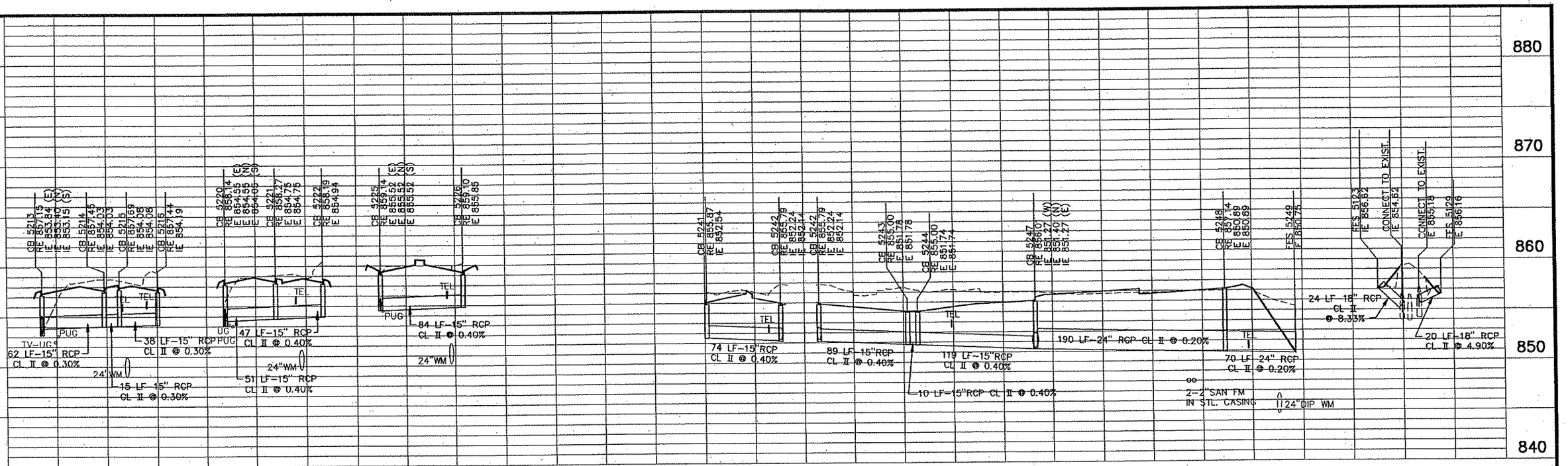
DRAINAGE PROFILES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

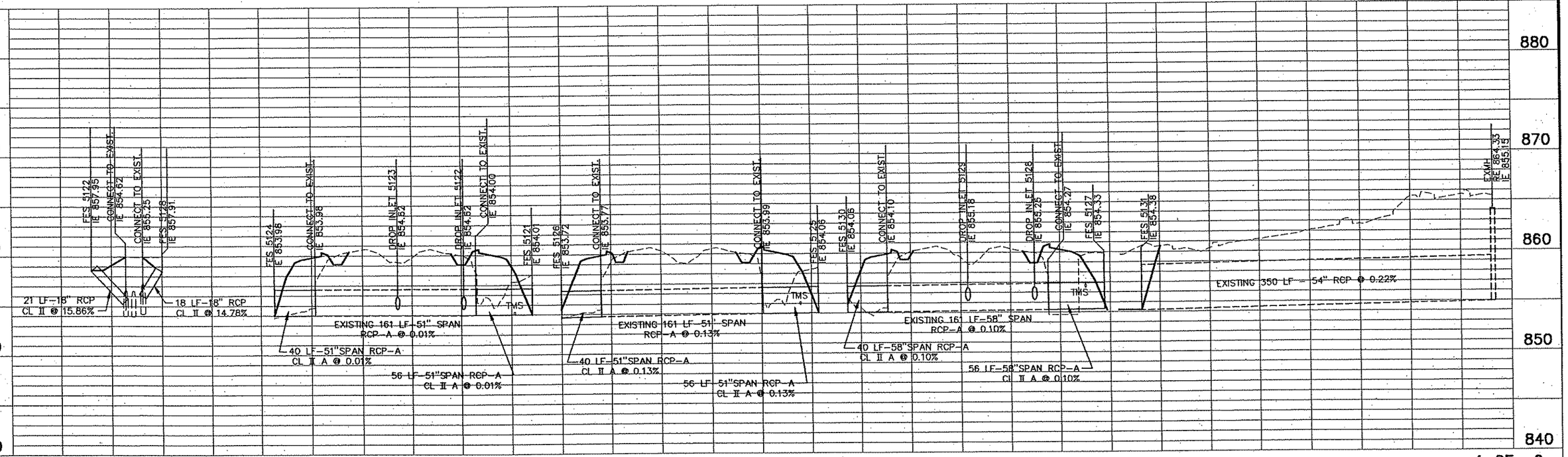
SHEET NO. 236 / 681

PLOT DATE: Jan .007 10:20am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042STP .dwg

Xref'd Drawings
STGrld22x34
HNSN-drnprf
REF-DWG-BDR
22x34bdr



NOTE: LENGTH OF PIPE INCLUDES LENGTH OF FLARED END SECTIONS



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED CULVERTS 5122, 5123, 5128 AND 5129

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: JCD
CHKED. BY: SAW
DWG. NAME: 042STPRF04
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

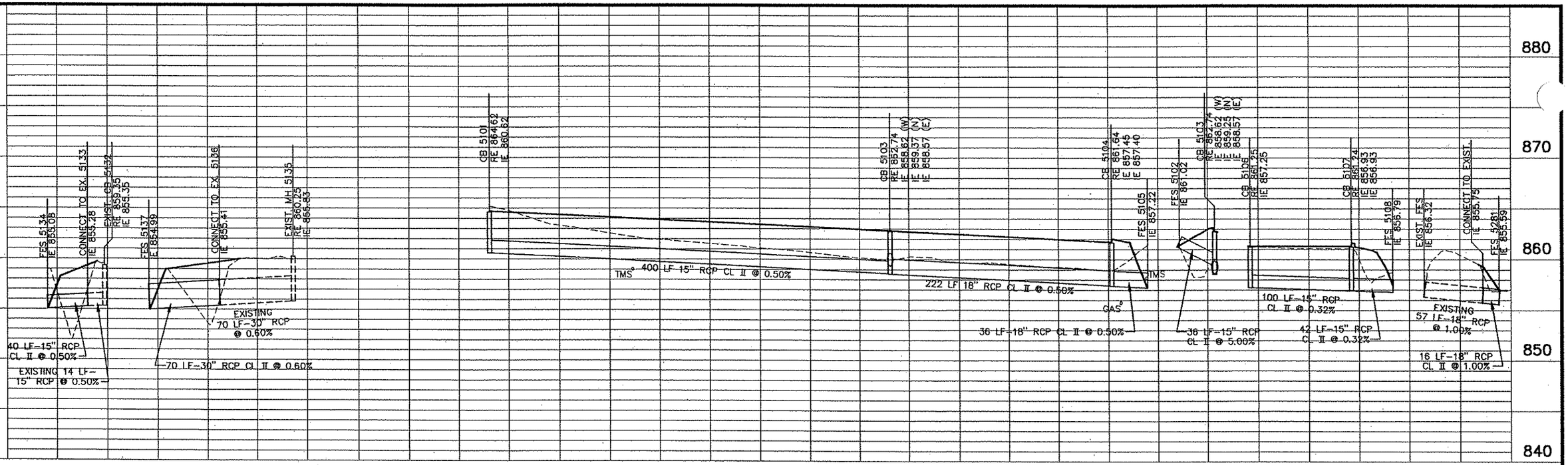
TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE PROFILES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

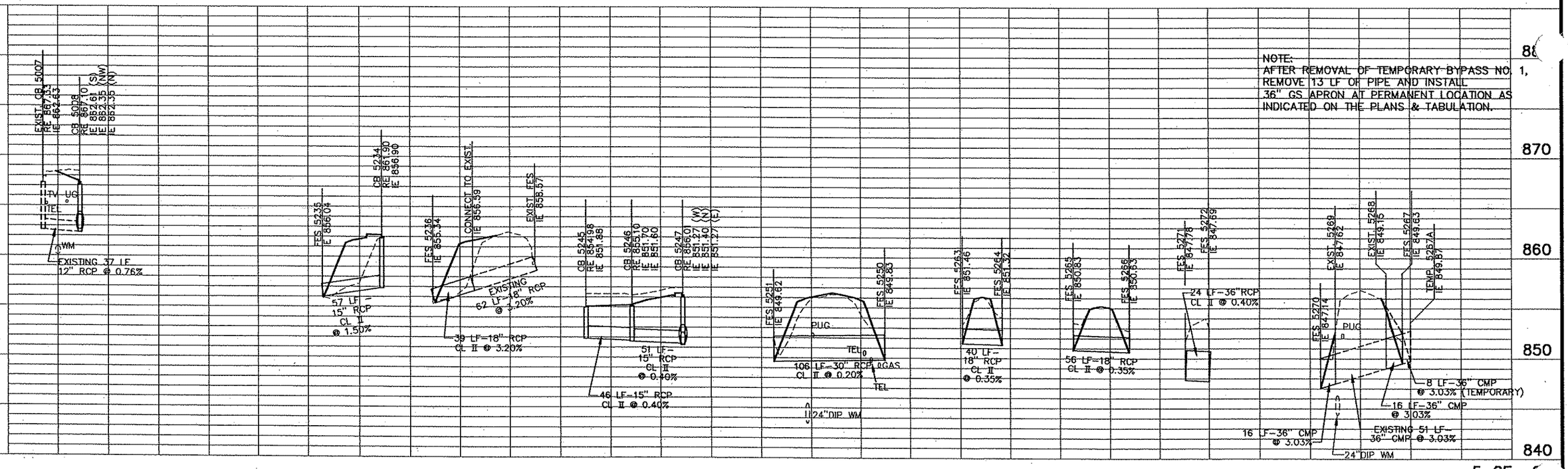
SHEET NO. 237 / 681

PLOT DATE: Jan 07 4:59pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042STPR.dgn

Xref'd Drawings
STGrid22x34
HNSN-drnprf
REF-DWG-BD
22x34bdr



NOTE: LENGTH OF PIPE INCLUDES LENGTH OF FLARED END SECTIONS



NOTE:
AFTER REMOVAL OF TEMPORARY BYPASS NO. 1,
REMOVE 13 LF OF PIPE AND INSTALL
36" GS APRON AT PERMANENT LOCATION AS
INDICATED ON THE PLANS & TABULATION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: 042STPRF05
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

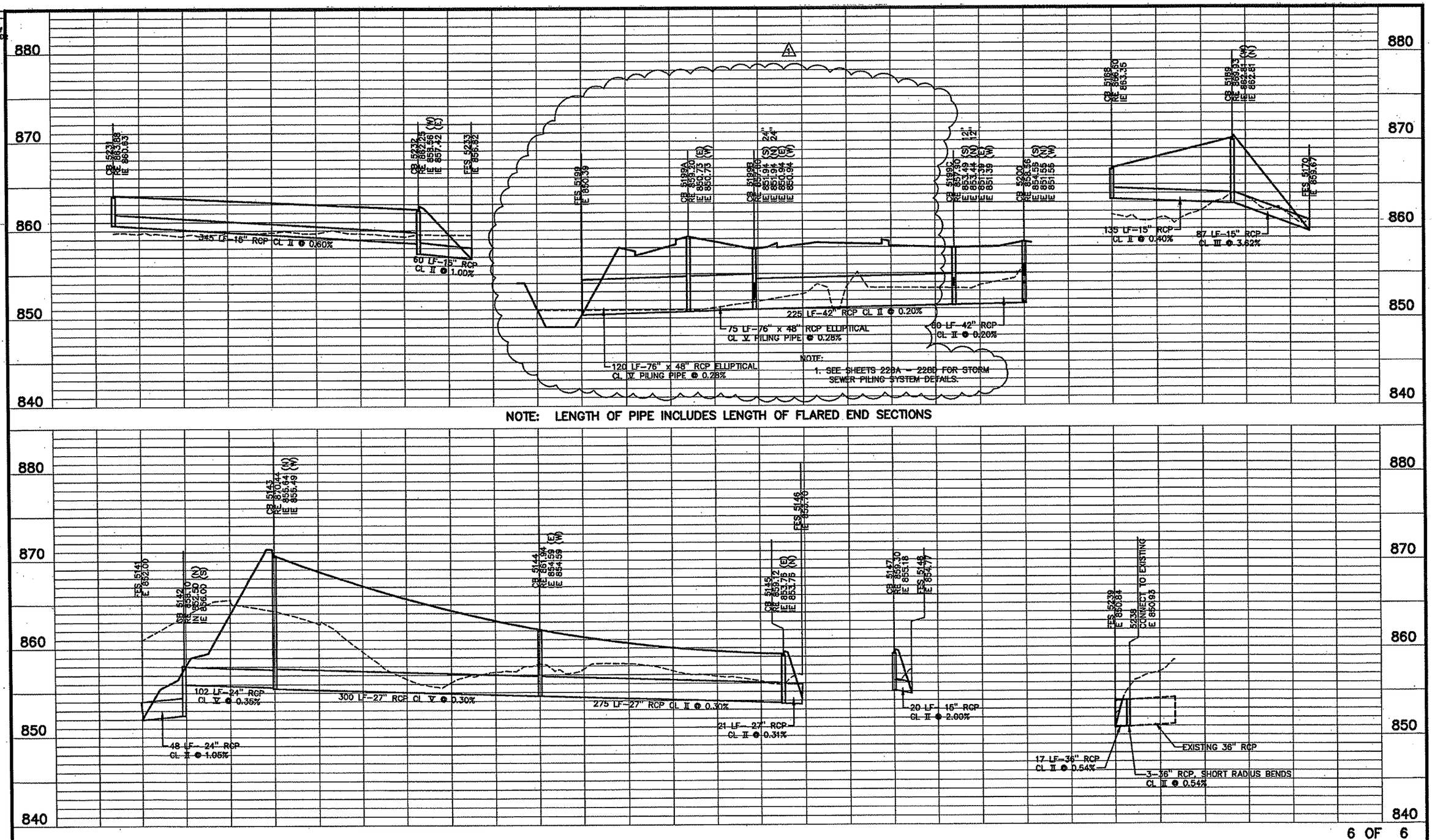
TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE PROFILES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 238 / 681

PLOT DATE: Jan 3007 10:20am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042STP

Xref Drawings
STCHd22x34
HNSN-dmprf
REF-DWG-BDR
22x34bdr



NOTE: LENGTH OF PIPE INCLUDES LENGTH OF FLARED END SECTIONS

6 OF 6

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	4/10/07	REALIGNED STORM, ADDED PILING PER L-0001

DESIGN FILE: 33889-042
DRAWN BY: KG | DESIGN BY: BJK
CHKED. BY: SAW | DWG. NAME: 042STPRF06
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

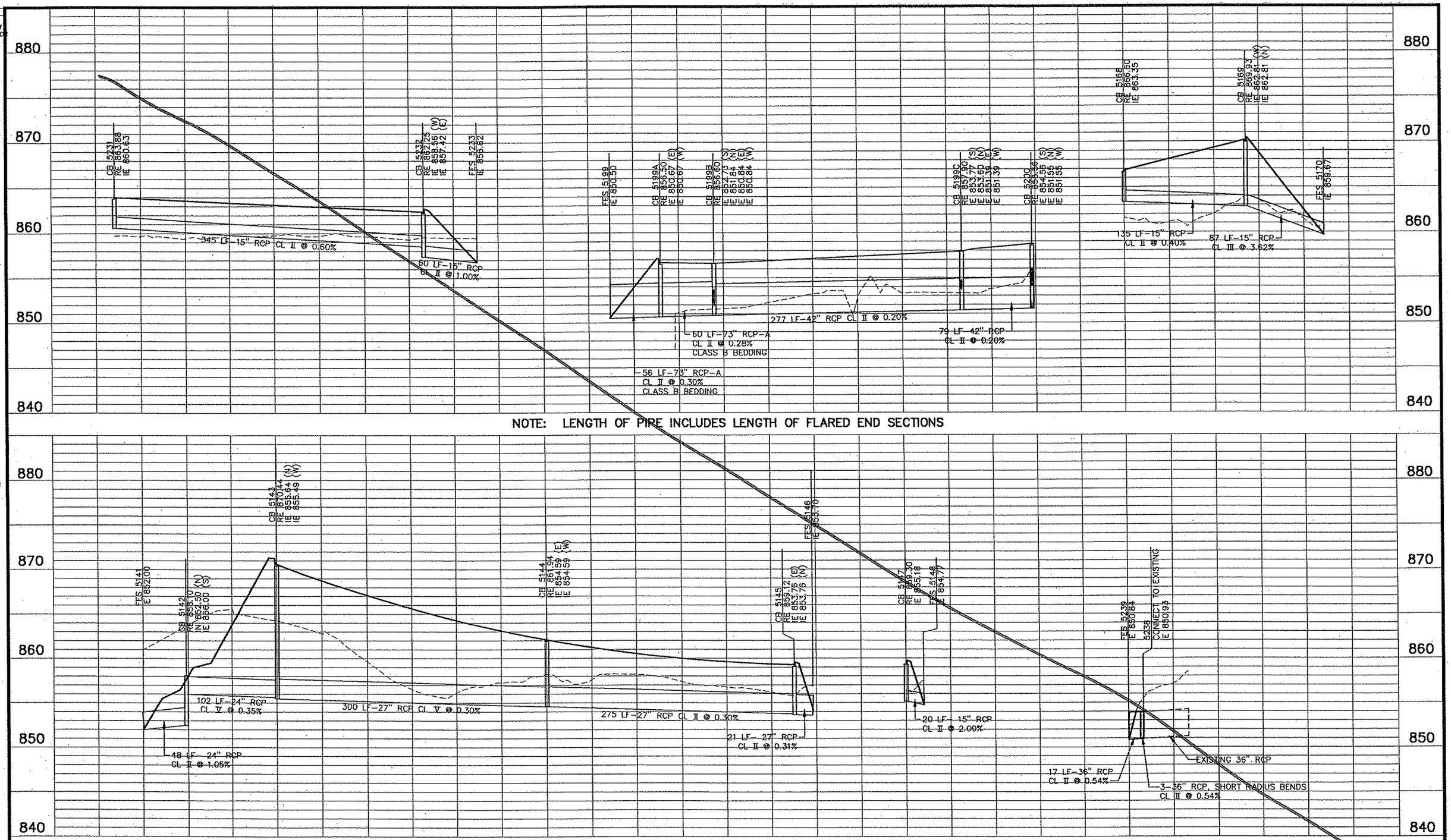
TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE PROFILES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 239 / 681

PLOT DATE: Apr 10, 2007 9:01am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042STPRF06.dwg

Xref's Drawings
STGrid22x34
HNSN-dmprf
REF-DWG-BDR
22x34bdr



NOTE: LENGTH OF PIPE INCLUDES LENGTH OF FLARED END SECTIONS

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: KG | DESIGN BY: BJK
CHKED. BY: SAW | DWG. NAME: 042STPRF06
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19661

TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE PROFILES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 239 / 681

PLOT DATE: Jan 8, 2007 10:20am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042STPRF06.dwg

SET Name: Preview
22x34bdr

STORM SEWER PIPE TABULATION

U

NOTES	FROM STRUCT NO.	TO STRUCT. NO.	2503 12 INCH RCP CL II	2503 15 INCH RCP CL II	2503 15 INCH RCP CL III	2503 15 INCH RCP CL V	2503 18 INCH RCP CL II	2503 18 INCH RCP CL IV	2503 21 INCH RCP CL II	2503 24 INCH RCP CL II	2503 24 INCH RCP CL V	2503 27 INCH RCP CL II	2503 27 INCH RCP CL IV	2503 30 INCH RCP CL II	2503 30 INCH RCP CL IV	2503 36 INCH RCP CL II	2503 42 INCH RCP CL II	2503 42 INCH RCP CL III	2503 36 INCH RCP-A CL II	2503 73 INCH RCP-A CL II	2501 RCP APRON	2501 SAFETY APRON	2501 RCP-A APRON	2501 TRASH GUARD	2503 CONNECT TO EXIST. STORM SEWER	2575 SODDING TYPE EROSION	2511 RANDOM RIPRAP CL II	2511 RANDOM RIPRAP CL III	2511 RANDOM RIPRAP CL IV	2511 GEOTEXTILE FILTER TYPE IV	2554 GUIDE POST TYPE B
			LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EACH	EACH	EACH	EACH	EACH	SY	CY	CY	CY	SY	EACH
	EX 5001	5002																													
	5002	5003					124																		1						
	5003	5008							106																1						
	5004	5003		31																											
	5005	5004		55																											
	EX 5006	5003																													
	EX 5007	5008																													
	5008	5009							10																1						
	5009	5019										95																			
	5010	5009					28																								
	5011	5010		10																											
	5012	5011		23																											
	5013	5010		58																											
	5014	5013		10																											
	5015	5012		35																											
	EX 5016	5015	41																						1						
	EX 5017	5018																													
	5018	5019		47																					1						
	5019	5023										103																			
	5020	5021		46																											
	5021	5022		49																											
	5022	5029												31																	
	5023	5022												27																	
	5024	5023		55																											
	5025	5024		10																											
	5026	5024		6																											
	5027	5026		46																											
	5028	5027		10																											
[2]	5029	5030													68																
[8]	5030	OUT																			1 (30")			1			21.0			64.0	1
[2]	5041	5042															32				1 (42")			1			40.0				
	5042	5043																179													
[2]	5043	5044																	214												
[8]	5044	OUT																			1 (42")			1			27.0			80.0	1
	5051	5052		64																											
	5052	5053		6																											
	5053	5054		51																											
[2]	5054	5055						92																							
[8]	5055	OUT																			1 (18")								33.0	49.0	1
	5056	5056A		30												1															
	5056A	5057			163																										
	5057	5058			68																										
	5058	5054			187																										
	5059	5058		118																											
	5061	5062		49																											
[2]	5062	5063				89																									
[8]	5063	OUT																			1 (15")								25.0	38.0	1
[2]	5081	5082												65							1 (30")			1			20.0				
[2]	5082	5083													32																
	5083	OUT																			1 (30")			1				10.9		25.0	1
	5101	5103		400																											
[2]	5102	5103		29																		1 (15")									
	5103	5104					222																								
[2]	5104	5105					30																								
	5105	OUT																				1 (18")					3.9			14.8	1
	5106	5107		100																											
[2]	5107	5108		35																											
	5108	OUT																				1 (15")					2.9			15.6	1

SEE SHEET 3 OF 7 FOR NOTES

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: ST-TAB01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl L. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
STORM TABULATIONS
STORM SEWER PIPE TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 240 / 681

PLOT DATE: Jan 07 10:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ST-.dwg

REF Survey Drawings
22x34bdr

STORM SEWER PIPE TABULATION

U

NOTES	FROM STRUCT NO.	TO STRUCT. NO.	2503 12 INCH RCP CL II	2503 15 INCH RCP CL II	2503 15 INCH RCP CL III	2503 15 INCH RCP CL V	2503 18 INCH RCP CL II	2503 18 INCH RCP CL IV	2503 21 INCH RCP CL II	2503 24 INCH RCP CL II	2503 24 INCH RCP CL V	2503 27 INCH RCP CL II	2503 27 INCH RCP CL IV	2503 30 INCH RCP CL II	2503 30 INCH RCP CL IV	2503 35 INCH RCP CL II	2503 42 INCH RCP CL II	2503 42 INCH RCP CL III	2503 36 INCH RCP-A CL II	2503 73 INCH RCP-A CL II	2501 RCP APRON	2501 SAFETY APRON	2501 RCP-A APRON	2501 TRASH GUARD	2503 CONNECT TO EXIST. STORM SEWER	2575 SODDING TYPE EROSION	2511 RANDOM RIPRAP CL II	2511 RANDOM RIPRAP CL III	2511 RANDOM RIPRAP CL IV	2511 GEOTEXTILE FILTER TYPE IV	2554 GUIDE POST TYPE B
			LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EACH	EACH	EACH	EACH	EACH	SY	CY	CY	CY	SY	EACH
	5131	OUT																			1 (54")				1				115.0	175.0	1
	EX-5132	5133																													
[2]	EX-5133	5134		34																					1						
[3]	5134	OUT																									2.9			15.6	1
	EX-5135	5136												64											1						
[2]	EX-5136	5137																									7.3			25.0	1
[3]	5137	OUT																													
[2]	5141	5142								42											1 (24")						15.0				1
	5142	5143									102																				
	5143	5144											300																		
	5144	5145										275																			
[2]	5145	5146										15																			
	5146	OUT																			1 (27")						5.8			20.8	1
[2]	5147	5148		14																						9.0					1
	5148	OUT																			1 (15")										
	5161	5162		45																											
[2]	5162	5167				80																									
	5163	5162			185																										
	5164	5163			116																										
	5165	5164			116																										
	5166	5166A		52																											
	5166A	5165		121																											
	5167	OUT																			1 (15")							17.0		34.0	1
	5168	5169		135																											
[2]	5169	5170			81																										
	5170	OUT																			1 (15")							4.4		11.2	1
	5171	5172		50																											
	5172	5173		8																											
	5173	5174					74																								
	5174	5175					182																								
[2]	5175	5176					18																								
	5176	OUT																			1 (18")							21.0		42.0	1
	5180	5181																				1 (15")									1
	5181	5182		229																											
	5182	5183																							2						
[2]	5183	5184					36																								
	5184	OUT																				1 (18")					3.9			14.8	1
	5191	5192		10																											
	5192	5200					94																								
	5193	5194		10																											
	5194	5192					38																								
	5195	5194		8																											
	5196	5197		10																											
	5197	5195		74																											
	5198	5195		10																											
	5199	OUT																					1 (73")				37.0			112.0	1
[2]	5199A	5199																		48											
[2]	5199B	5199A																		60											
[2]	5199C	5199B																	277												
[2]	5200	5199C																	79												

SEE SHEET 3 OF 7 FOR NOTES

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: ST-TAB02
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
STORM TABULATIONS
STORM SEWER PIPE TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 241 / 681

PLOT DATE: Jan 0 07 10:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRO-CONST\042-ST-

FF 30x42 Drawing
2x34bdr

STORM SEWER PIPE TABULATION

U

NOTES	FROM STRUCT NO.	TO STRUCT. NO.	2503 12 INCH RCP CL II LF	2503 15 INCH RCP CL II LF	2503 15 INCH RCP CL III LF	2503 15 INCH RCP CL V LF	2503 18 INCH RCP CL II LF	2503 18 INCH RCP CL IV LF	2503 21 INCH RCP CL II LF	2503 24 INCH RCP CL II LF	2503 24 INCH RCP CL V LF	2503 27 INCH RCP CL II LF	2503 27 INCH RCP CL IV LF	2503 30 INCH RCP CL II LF	2503 30 INCH RCP CL IV LF	2503 36 INCH RCP CL II LF	2503 42 INCH RCP CL II LF	2503 42 INCH RCP CL III LF	2503 36 INCH RCP-A CL II LF	2503 73 INCH RCP-A CL II LF	2501 RCP APRON EACH	2501 SAFETY APRON EACH	2501 RCP-A APRON EACH	2501 TRASH GUARD EACH	2503 CONNECT TO EXIST. STORM SEWER EACH	2575 SODDING TYPE EROSION SY	2511 RANDOM RIPRAP CL II CY	2511 RANDOM RIPRAP CL III CY	2511 RANDOM RIPRAP CL IV CY	2511 GEOTEXTILE FILTER TYPE IV SY	2554 GUIDE POST TYPE B EACH
	5201	5202		66																											
	5202	5200												97																	
	5203	5202												73																	
	5204	5203								10																					
	5205	5203					62																								
	5206	5205		10																											
	5207	5205		20																											
	5208	5207		10																											
	5209	5207		38																											
	5210	5209		10																											
	5213	5204								155																					
	5214	5213		62																											
	5215	5214		15																											
	5216	5215		38																											
	5220	5213							150																						
	5221	5220		51																											
	5222	5221		47																											
	5224	5220		152																											
	5225	5224		10																											
	5226	5225		84																											
		5225		133																											
	5228	5227		69																											
	5231	5232		345																											
[2]	5232	5233		53																											
	5233	OUT																				1 (15°)					2.9			11.2	1
[2]	5234	5235		51																											
	5235	OUT																				1 (15°)					2.9			11.2	1
[2],[4],[7]	5238	5239														9									1						
[3]	5239	OUT																												18.3	30.0	1
[4]	5241	5242		74																											
[4]	5242	5243		89																											
[4]	5243	5244		10																											
[4]	5244	5247		119																											
[4]	5245	5246		46																											
[4]	5246	5247		51																											
[4]	5247	5248								190																					
[2],[4]	5248	5249								64																					
	5249	OUT																				1 (24")					5.5			19.6	1
PROJECT TOTALS:			41	3887	916	169	908	92	266	461	102	468	300	357	100	9	388	179	214	108	15	7	1	5	11	9.0	200.9	53.3	191.3	820	23

NOTES:
[1] ALL PIPE LENGTHS WERE MEASURED FROM FACE OF CURB FOR CATCH BASINS OR CENTER OF STRUCTURE FOR MANHOLES.
[2] PIPE LENGTHS DO NOT INCLUDE LENGTH OF APRON. PIPE LENGTHS ON PROFILE SHEETS INCLUDE THE LENGTH OF APRON.
[3] INSTALL SALVAGED APRON.
[4] TIE ALL JOINTS
[5] ALL PIPES SHALL HAVE GASKETED JOINTS PER MNDOT STANDARD PLATE 3006
[6] TIE THE LAST THREE JOINTS AT ALL END SECTIONS (APRON LOCATIONS)
[7] PIPE QUANTITY INCLUDES 3 SHORT RADIUS 36" RCP BENDS TO BE CONNECTED TO EXISTING PIPE
[8] SEE DRAINAGE DETAILS FOR RIPRAP DESIGN INTO PONDS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: ST-TAB03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
STORM TABULATIONS
STORM SEWER PIPE TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 242 / 681

PLOT DATE: Jan 7 10:16am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ST-.dwg

Xref'd Drawings
REF-DWG-BD
22x34bdr

STORM SEWER STRUCTURE TABULATION

V

NOTES	STRUCTURE							PAY HEIGHT (2506)														DRAINS TO		
	STRUCT NO.	ALIGNMENT	STATION [1]	OFFSET [1]	STRUCT. DESIGN	RIM ELEV.	LOW STRUCT. ELEV. FEET	DESIGN H FEET	DESIGN G FEET	4020-48" FEET	4020-54" FEET	4020-60" FEET	4020-66" FEET	4020-72" FEET	4020-84" FEET	4020-90" FEET	4020-102" FEET	SPECIAL 1 FEET	SPECIAL 2 (78" DIA.) FEET	SPECIAL 3 (48" DIA.) FEET	2506 CASTING ASSEMBLY [2,3,4] EACH	STRUCT. NO.	INVERT IN FEET	SLOPE %
	EX 5001	HANSON SB	2+73.33	27.64 LT	EXISTING	868.72	864.71															5002	863.41	0.94
[11]	5002	HANSON SB	4+07.62	25.56 LT	DESIGN G	868.26	863.41		4.85												B-5	5003	863.10	0.25
[11]	5003	HANSON SB	5+28.34	15.97 LT	4020-72"	867.97	862.89							5.08							B-5	5008	862.61	0.26
	5004	HANSON SB	5+24.97	13.00 RT	DESIGN G	867.99	863.59		4.40												B-5	5003	863.44	0.50
	5005	HANSON NB	5+04.84	13.00 RT	DESIGN H	867.97	863.97	4.00														5004	863.69	0.50
	EX 5006	HANSON SB	5+72.93	37.85 LT	EXISTING	867.53	863.73															5003	862.99	1.62
	EX 5007	HANSON SB	6+47.40	39.70 LT	EXISTING	867.33	862.63															5008	862.35	0.76
[11]	5008	HANSON SB	6+21.12	13.00 LT	4020-84"	867.44	862.35								5.09						B-5	5009	862.30	0.50
[11]	5009	HANSON SB	6+31.44	13.00 LT	4020-54"	867.44	862.30				5.14										B-5	5019	861.83	0.50
	5010	HANSON SB	6+26.44	13.00 RT	4020-48"	867.44	862.79			4.65											B-5	5009	862.58	0.75
	5011	HANSON SB	6+36.44	13.00 RT	DESIGN G	867.44	862.84		4.60												B-5	5010	862.79	0.50
	5012	HANSON NB	6+51.00	25.00 LT	DESIGN G	867.10	863.06		4.04												B-5	5011	862.94	0.50
	5013	HANSON NB	6+26.44	13.00 RT	DESIGN G	867.45	863.30		4.15												B-5	5010	863.01	0.50
	5014	HANSON NB	6+36.44	13.00 RT	DESIGN H	867.45	863.45	4.00													B-5	5013	863.40	0.50
	5015	HANSON NB	6+86.00	25.00 LT	DESIGN G	867.22	863.33		3.89												B-5	5012	863.16	0.50
[5]	EX 5016	HANSON NB	7+14.66	55.48 RT	EXISTING	867.30	865.40														B-5	5015	864.58	0.94
	EX 5017	HANSON SB	7+11.41	194.43 LT	EXISTING	867.44	864.34															5018	863.93	0.30
	5018	HANSON SB	7+11.41	58.95 LT	DESIGN G	866.92	863.43		3.49												B-5	5019	863.19	0.50
[11]	5019	HANSON SB	7+26.00	14.28 LT	4020-66"	868.00	861.83						6.17								A-7	5023	861.31	0.50
	5020	HANSON SB	7+60.67	69.57 LT	DESIGN H	867.01	863.01	4.00													B-5	5021	862.77	0.52
	5021	HANSON SB	8+06.55	76.29 LT	DESIGN G	866.99	862.67		4.32												B-5	5022	862.43	0.50
[11]	5022	HANSON SB	8+40.59	40.64 LT	4020-66"	868.75	860.97						7.78								B-5	5029	860.82	0.50
[11]	5023	HANSON SB	8+29.00	16.91 LT	4020-54"	869.69	861.21				8.48										A-7	5022	861.07	0.50
	5024	HANSON SB	8+29.00	37.00 RT	4020-48"	869.37	865.42			3.95											B-5	5023	865.14	0.50
	5025	HANSON SB	8+39.00	37.00 RT	DESIGN H	869.57	865.57	4.00													B-5	5024	865.52	0.50
	5026	HANSON NB	8+29.00	13.00 LT	DESIGN G	869.64	865.95		3.69												B-5	5024	865.92	0.50
	5027	HANSON NB	8+52.00	25.00 RT	DESIGN G	870.18	866.28		3.90												B-5	5026	866.05	0.50
	5028	HANSON NB	8+62.00	25.00 RT	DESIGN H	870.43	866.43	4.00													B-5	5027	866.38	0.50
[7], [8], [11]	5029	HANSON SB	8+57.00	68.00 LT	SPECIAL 1	868.08	857.32											10.76			SPECIAL	5030	856.95	0.50
	5030	HANSON SB	9+12.00	117.42 LT	30" APR																	OUT		
	5041	HANSON NB	11+36.00	176.40 RT	42" APR		852.50															5042	852.46	0.10
[10], [11]	5042	HANSON NB	11+42.00	136.85 RT	SPECIAL 2 (78" DIA.)	861.10	852.46												9.02		SPECIAL	5043	856.46	0.30
[11]	5043	HANSON NB	9+82.00	56.71 RT	4020-72"	867.50	856.46							11.04							A-7	5044	855.79	0.30
	5044	HANSON SB	9+82.00	106.97 LT	42" APR																	OUT		
	5051	HANSON NB	10+79.07	36.90 RT	DESIGN H	878.22	874.22	4.00													B-5	5052	873.58	1.00
[11]	5052	HANSON NB	10+79.20	25.44 LT	DESIGN G	878.22	873.48		4.74												B-5	5053	873.42	1.00
[11]	5053	HANSON SB	10+78.81	24.48 RT	4020-48"	878.22	873.32			4.90											B-5	5054	872.80	1.00
[11]	5054	HANSON SB	10+79.00	25.00 LT	4020-48"	878.22	859.89			18.33											B-5	5055	856.95	3.00
	5055	HANSON SB	10+36.00	114.45 LT	18" APR																	OUT		
[6]	5056	RAMP C1	450+40.00	21.00 LT	DESIGN H	879.41	875.41	4.00													B-9	5056A	875.26	0.50
[11]	5056A	RAMP C1	450+40.00	6.00 RT	4020-48"	879.74	875.06			4.68											A-7	5057	874.25	0.50
[11]	5057	RAMP C CONN	852+02.21	11.00 RT	4020-48"	883.46	874.05			9.42											B-5	5058	873.71	0.50
[11]	5058	HANSON SB	12+66.00	29.00 LT	4020-48"	884.12	873.51			10.62											B-5	5054	867.89	3.00
	5059	HANSON NB	12+66.00	29.00 RT	DESIGN H	884.12	880.12	4.00													B-5	5058	879.53	0.50
[6]	5061	RAMP D	555+70.00	15.00 LT	DESIGN H	880.02	876.02	4.00													B-9	5062	874.54	3.00
[11]	5062	RAMP D CONN	955+58.40	10.99 RT	4020-48"	880.53	860.54			19.99											B-5	5063	857.69	3.00
	5063	RAMP D	555+68.79	124.21 RT	15" APR																	OUT		
	5081	RAMP C1	450+53.66	156.12 RT	30" APR		853.00															5082	852.93	0.10
[11]	5082	RAMP C1	450+19.61	94.15 RT	4020-66"	863.00	852.93						10.07								A-7	5083	856.37	0.35
	5083	RAMP C1	449+85.22	110.74 RT	30" APR																	OUT		
	5101	RAMP D	564+49.80	19.00 RT	DESIGN H	865.18	861.18	4.00													D-4	5103	859.18	0.50
	5102	RAMP D	568+50.00	21.52 LT	15" APR		861.02															5103	859.25	5.00
	5103	RAMP D	568+50.00	13.00 RT	4020-48"	863.18	859.13			4.05											D-4	5104	858.02	0.50
	5104	RAMP D	570+72.00	13.00 RT	DESIGN G	862.08	857.97		4.11												D-4	5105	857.79	0.50
	5105	RAMP D	571+00.00	37.10 RT	18" APR																	OUT		
	5106	HWY 10 EB	372+50.00	21.00 RT	DESIGN H	861.37	857.37	4.00													B-9	5107	857.05	0.32
	5107	HWY 10 EB	373+50.00	21.00 RT	DESIGN G	861.37	857.05		4.32												B-9	5108	856.92	0.32
	5108	RAMP D	573+52.35	30.00 RT	15" APR																	OUT		

SEE SHEET 6 OF 7 FOR NOTES

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: ST-TAB04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19881

TH 10/HANSON BOULEVARD INTERCHANGE
STORM TABULATIONS
STORM SEWER STRUCTURE TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 243 / 681

PLOT DATE: Jan 5 ,007 10:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ST- .dwg

Xref'd Drawings
REF-DWG-BDR
22x34bdr

STORM SEWER STRUCTURE TABULATION

V

NOTES	STRUCTURE							PAY HEIGHT (2506)														DRAINS TO		
	STRUCT NO.	ALIGNMENT	STATION [1]	OFFSET [1]	STRUCT. DESIGN	RIM ELEV.	LOW STRUCT. ELEV.	DESIGN H	DESIGN G	4020-48"	4020-54"	4020-60"	4020-66"	4020-72"	4020-84"	4020-90"	4020-102"	SPECIAL 1	SPECIAL 2 (78" DIA.)	SPECIAL 3 (48" DIA.)	2506 CASTING ASSEMBLY [2,3,4]	STRUCT. NO.	INVERT IN	SLOPE
							FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	EACH		FEET	%
	5131	RAMP C1	442+16.58	69.33 RT	54" APR																	OUT	854.38	
	EX-5132	RAMP C1	443+84.62	129.63 RT	EXISTING	859.35	855.35															5133	855.28	0.50
	EX-5133	RAMP C1	443+88.63	107.99 RT	EXISTING		855.28															5134	855.08	0.50
	5134	RAMP C1	443+95.01	73.77 RT	INSTALL APR																	OUT		
	EX-5135	RAMP C1	445+22.26	162.74 RT	EXISTING	860.25	855.83															5136	855.41	0.60
	EX-5136	RAMP C1	444+60.19	113.31 RT	EXISTING		855.41															5137	854.99	0.60
	5137	RAMP C1	444+09.49	72.94 RT	INSTALL APR																	OUT		
	5141	RAMP A	149+17.36	113.40 LT	24" APR		852.00															5142	852.50	-1.05
[11],[12]	5142	RAMP A	148+79.98	83.6 LT	SPECIAL 3 (48" DIA.)	858.10	852.50													6.60	SPECIAL	5143	855.64	0.35
[11]	5143	RAMP A	148+00	19.9 LT	4020-48"	871.02	855.49			15.38											B-5	5144	854.59	0.30
[11]	5144	RAMP A	145+00	19.0 LT	4020-48"	862.50	854.59			7.91											B-5	5145	853.77	0.30
[11]	5145	RAMP A	142+25	17.5 LT	4020-48"	859.66	853.77			5.89											B-5	5146	853.70	0.31
	5146	RAMP A	142+20	37.8 LT	27" APR																	OUT		
[11]	5147	RAMP A	141+05	15.1 LT	DESIGN H	859.79	855.18	5.01													B-5	5148	854.78	2.00
	5148	RAMP A	141+05	35.1 LT	15" APR																	OUT		
[6]	5161	RAMP A	150+66.00	15.00 RT	DESIGN H	880.37	876.38	3.99													B-9	5162	874.90	3.27
[11]	5162	RAMP A CONN	650+76.65	11.00 LT	4020-48"	880.89	858.46			22.43											B-5	5167	856.50	2.28
[11]	5163	HANSON SB	16+11.00	29.00 LT	4020-48"	884.91	874.17			10.74											B-5	5162	872.96	0.65
[11]	5164	HANSON NB	16+16.00	29.00 RT	4020-48"	884.82	874.75			10.07											B-5	5163	874.17	0.50
[11]	5165	RAMP B CONN	754+79.00	19.00 LT	4020-48"	882.95	875.33			7.62											B-9	5164	874.75	0.50
[6]	5166	RAMP B2	256+00.00	21.00 RT	DESIGN H	880.19	876.20	3.99													B-9	5166A	875.94	0.51
	5166A	RAMP B2	256+00.00	31.00 LT	DESIGN G	880.47	875.94		4.53												B-5	5165	875.33	0.50
	5167	HANSON SB	16+89.98	234.04 LT	15" APR		856.50															OUT		
	5168	RAMP B2	260+50.00	22.30 LT	DESIGN H	867.23	863.98	3.25													B-9	5169	863.44	0.40
[11]	5169	RAMP B2	259+15.00	31.00 LT	4020-48"	870.77	863.44			7.33											B-9	5170	859.67	3.62
	5170	RAMP B2	258+50.00	88.50 LT	15" APR		859.67															OUT		
	5171	HANSON NB	19+55.00	37.00 RT	DESIGN H	873.72	868.82	4.90													B-5	5172	867.78	2.08
[11]	5172	HANSON NB	19+55.00	13.00 LT	4020-48"	873.72	867.68			6.04											B-5	5173	867.56	1.50
[11]	5173	HANSON SB	19+55.00	37.00 RT	4020-48"	873.72	867.46			6.26											B-5	5174	865.94	2.05
[11]	5174	HANSON SB	19+55.00	37.00 LT	4020-48"	873.72	865.94			7.78											B-5	5175	856.74	5.07
	5175	HANSON SB	17+90.59	114.09 LT	4020-48"	860.50	856.74			3.76											A-7	5176	856.50	1.00
	5176	HANSON SB	17+82.06	136.44 LT	18" APR		856.50															OUT		
	5180	WB HWY 10	356+80.00	28.96 RT	15" APR		860.00															5181	859.04	12.00
[9]	5181	WB HWY 10	356+80.00	20.96 RT	4020-48"	862.00	859.04			2.96											A-7	5182	858.61	0.19
[9]	5182	WB HWY 10	354+50.98	20.00 RT	4020-48"	862.00	858.61			3.39											A-7	5183	858.39	0.45
	5183	WB HWY 10	354+50.53	36.93 LT	4020-48"	862.29	858.29			4.00											A-7	5184	858.14	0.35
	5184	WB HWY 10	354+90.53	43.37 LT	18" APR																	OUT		
	5191	HANSON SB	22+79.00	25.00 LT	DESIGN H	861.48	858.23	3.25													B-5	5192	857.94	2.92
[11]	5192	HANSON SB	22+89.00	25.00 LT	4020-48"	861.19	856.67			4.52											B-5	5200	854.56	1.61
	5193	HANSON SB	22+79.00	13.00 RT	DESIGN H	861.48	858.23	3.25													B-5	5194	857.94	2.92
[11]	5194	HANSON SB	22+89.00	13.00 RT	4020-48"	861.19	856.66			4.53											B-5	5192	856.06	0.60
	5195	HANSON NB	22+89.00	37.00 LT	DESIGN G	860.92	857.49		3.43												B-5	5194	857.45	0.60
	5196	HANSON NB	22+79.00	37.00 RT	DESIGN H	861.48	858.23	3.25													B-5	5197	857.94	2.92
	5197	HANSON NB	22+89.00	37.00 RT	DESIGN G	861.19	857.94		3.25												B-5	5195	857.49	0.60
	5198	HANSON NB	22+79.00	37.00 LT	DESIGN H	861.16	857.69	3.47													B-5	5195	857.40	2.92
	5199	HANSON SB	23+69.32	487.00 LT	73" APR		850.50															OUT		
[11]	5199A	HANSON SB	24+00.01	440.00 LT	4020-102"	856.50	850.67										5.83				A-7	5199	850.50	0.30
[11]	5199B	HANSON SB	24+09.74	381.00 LT	4020-102"	856.60	850.84										5.76				A-7	5199A	850.67	0.28
[11]	5199C	HANSON SB	23+88.20	105.10 LT	4020-66"	857.90	851.39						6.51								A-7	5199B	850.84	0.20
[11]	5200	HANSON SB	23+82.50	26.10 LT	4020-90"	858.56	851.55									7.01					A-7	5199C	851.39	0.20

SEE SHEET 6 OF 7 FOR NOTES

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: ST-TAB05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
STORM TABULATIONS
STORM SEWER STRUCTURE TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 244

PLOT DATE: Jan 07 10:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRO-CONST\042-ST-...dwg

Xref'd Drawings
REF-DWG-BDR
22x34bdr

STORM SEWER STRUCTURE TABULATION

V

NOTES	STRUCTURE							PAY HEIGHT (2506)													DRAINS TO		
	STRUCT NO.	ALIGNMENT	STATION [1]	OFFSET [1]	STRUCT. DESIGN	RIM ELEV.	LOW STRUCT. ELEV.	DESIGN H	DESIGN G	4020-48"	4020-54"	4020-60"	4020-66"	4020-72"	4020-84"	4020-90"	4020-102"	SPECIAL 1	SPECIAL 2 (78" DIA.)	SPECIAL 3 (48" DIA.)	2506 CASTING ASSEMBLY [2,3,4]	STRUCT. NO.	INVERT IN	SLOPE
							FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	EACH		FEET	%
	5201	HANSON SB	24+78.00	25.00 RT	DESIGN H	857.58	854.28	3.30													B-5	5202	854.02	0.40
[11]	5202	HANSON SB	24+78.00	40.70 LT	4020-60"	857.56	851.79					5.77									B-5	5200	851.55	0.25
[9]	5203	HANSON SB	25+50.74	37.00 LT	4020-60"	857.37	852.01					5.36									B-5	5202	851.79	0.30
[9]	5204	HANSON SB	25+60.74	37.00 LT	4020-48"	857.37	852.55			4.82											B-5	5203	852.51	0.40
[9]	5205	HANSON SB	25+50.74	25.00 RT	4020-48"	857.37	853.04			4.33											B-5	5203	852.85	0.30
	5206	HANSON SB	25+60.74	25.00 RT	DESIGN H	857.37	854.12	3.25													B-5	5205	854.07	0.50
	5207	HANSON NB	25+50.83	13.00 LT	DESIGN G	857.37	853.96		3.40												B-5	5205	853.90	0.30
	5208	HANSON NB	25+60.83	13.00 LT	DESIGN H	857.37	854.12	3.25													B-5	5207	854.07	0.50
	5209	HANSON NB	25+50.83	25.00 RT	DESIGN G	857.37	854.07		3.30												B-5	5207	853.96	0.30
	5210	HANSON NB	25+60.83	25.00 RT	DESIGN H	857.37	854.12	3.25													B-5	5209	854.07	0.50
	5213	HANSON SB	27+16.00	37.00 LT	4020-48"	858.05	853.15			4.90											B-5	5204	852.55	0.38
	5214	HANSON SB	27+16.00	25.00 RT	DESIGN G	858.05	854.64		3.41												B-5	5213	854.45	0.30
	5215	HANSON NB	27+16.00	13.00 LT	DESIGN G	858.05	854.08		3.97												B-5	5214	854.64	0.30
	5216	HANSON NB	27+14.80	25.00 RT	DESIGN H	858.04	854.79	3.25													B-5	5215	854.08	0.30
	5220	HANSON SB	28+65.96	27.10 LT	4020-48"	858.51	854.05			4.46											B-5	5213	854.00	0.43
	5221	HANSON SB	28+65.96	24.00 RT	DESIGN G	858.62	855.35		3.26												B-5	5220	854.55	0.40
	5222	HANSON NB	28+65.00	25.00 RT	DESIGN H	858.79	855.54	3.25													B-5	5221	855.35	0.40
	5224	HANSON SB	30+17.76	22.20 LT	DESIGN G	859.62	855.46		4.16												B-5	5220	854.55	0.60
	5225	HANSON SB	30+27.76	21.50 LT	DESIGN G	859.68	855.52		4.16												B-5	5224	855.46	0.60
	5226	HANSON NB	30+27.00	25.00 RT	DESIGN H	859.71	856.46	3.25													B-5	5225	855.52	0.40
		HANSON SB	31+60.00	13.00 LT	DESIGN G	861.20	857.14		4.06												B-5	5225	855.52	1.22
	5228	HANSON NB	31+60.00	25.00 RT	DESIGN H	861.27	858.02	3.25													B-5	5227	857.14	0.40
	5231	RAMP B2	262+50.00	19.00 LT	DESIGN H	864.43	861.18	3.25													B-9	5232	859.11	0.60
[11]	5232	RAMP B2	265+95.00	13.00 LT	DESIGN G	862.69	857.86		4.83												B-9	5233	857.26	1.00
	5233	RAMP B2	266+50.00	36.50 LT	15" APR		857.26															OUT		
[11]	5234	HWY 10 WB	369+66.00	21.00 LT	DESIGN G	862.02	857.02		5.00												B-9	5235	856.17	1.50
	5235	RAMP B2	269+66.10	34.40 LT	15" APR																	OUT		
[11]	5238	HANSON CL	33+74.58	67.30 LT			850.93															5239	850.84	0.54
	5241	N-NDALE WB	2+26.18	13.00 LT	DESIGN H	856.29	852.96	3.33													B-5	5242	852.67	0.40
	5242	N-NDALE EB	2+12.64	13.00 RT	DESIGN G	856.15	852.57		3.58												B-5	5243	852.21	0.40
[9]	5243	N-NDALE EB	3+02.82	13.00 RT	4020-48"	855.36	852.21			3.15											B-5	5244	852.17	0.40
[9]	5244	N-NDALE EB	3+12.82	13.00 RT	4020-48"	855.36	852.17			3.19											B-5	5247	851.70	0.40
	5245	N-NDALE WB	3+77.79	13.00 LT	DESIGN H	855.40	852.30	3.10													B-5	5246	852.12	0.40
[9]	5246	N-NDALE WB	4+24.00	13.00 LT	4020-48"	855.23	852.02			3.21											B-5	5247	851.82	0.40
[11]	5247	N-NDALE EB	4+28.00	13.00 LT	4020-48"	856.13	851.70			4.43											B-5	5248	851.32	0.20
[11]	5248	N-NDALE CL	6+25.14	8.00 RT	4020-48"	856.98	851.32			5.66											A-7	5249	851.18	0.20
	5249	N-NDALE CL	6+50.00	72.76 RT	24" APR																	OUT		
	PROJECT TOTALS:							114.09	108.84	249.30	13.62	11.13	30.53	16.12	5.09	7.01	11.59	10.76	9.02	6.60	108			

NOTE:
[1] STATIONS AND OFFSETS ARE TO THE CENTER OF CASTING FOR ALL CATCHBASINS, TO THE CENTER OF STRUCTURE FOR ALL MANHOLES AND TO THE END OF APRON FOR ALL APRONS.
[2] B-5 REFERS TO MN/DOT STANDARD PLATES: 4154 FOR GRATE NO. 816; 4160 FOR CURB BOX NO. 823; AND 4129 FOR RING OR FRAME CASTING NO. 802A.
[3] A-7 REFERS TO MN/DOT STANDARD PLATES: 4101 FOR RING CASTING NO. 700-7; AND 4110 FOR COVER CASTING NO. 716.
[4] B-9 AND D-4 REFER TO MN/DOT STANDARD PLATES: 4154 FOR GRATE NO. 816; AND 4132 FOR RING OR FRAME CASTING NO. 805
[5] ADJUST STRUCTURE RIM FROM ELEVATION 867.30 TO ELEVATION 866.88. INSTALL NEW CASTING ASSEMBLY.
[6] STRUCTURE TO BE CONSTRUCTED IN THE MOMENT SLAB OF THE MSE RETAINING WALLS. SEE WALL DETAIL SHEETS.
[7] THE LOW STRUCTURE ELEVATION LISTED IS THE INVERT OF THE PIPE OUT OF THE STRUCTURE. ACTUAL DEPTH TO BE DESIGNED BY CONTRACTOR.
[8] MECHANICAL SEPARATOR
[9] SHALLOW DEPTH STRUCTURE, STANDARD PLATE 4024, PAID FOR AS 4020 STRUCTURE.
[10] POND D OUTLET STRUCTURE
[11] STEPS TO BE PROVIDED IN ALL STRUCTURES GREATER THAN 4.5' IN DEPTH
[12] POND A OUTLET STRUCTURE

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: ST-TAB06
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
STORM TABULATIONS
STORM SEWER STRUCTURE TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 245 / 681

PLOT DATE: Jan 07 10:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRO-CONST\042-ST-.dwg

F:\Work Dir\tpo
2x34bdr

CULVERT TABULATION

W

NOTES	STRUCTURE						DRAINS TO			2501	2501	2501	2501	2501	2501	2501	2501	2501	2501	2501	2501	2501	2503	2511	2511	2511	2554
	STRUCT NO.	ALIGNMENT	STATION [1]	OFFSET [1]	STRUCT. DESIGN	INVERT IN [1]	STRUCT. NO.	INVERT OUT [1]	SLOPE	18 INCH RC PIPE DES 3006 CL II [2]	24 INCH RC PIPE DES 3006 CL V [2]	30 INCH RC PIPE DES 3006 CL II [2]	30 INCH RC PIPE DES 3006 CL V [2]	36 INCH RC PIPE DES 3006 CL II [2]	36 INCH CS PIPE [2]	51 INCH RC PIPE SPAN CL IIA [2]	58 INCH RC PIPE SPAN CL IIA [2]	RC PIPE APRON	GS PIPE APRON	RCP ARCH APRON	SAFETY APRON & GRATE DES 3128 [8]	SAFETY APRON	CONNECT TO EXIST. STORM SEWER	RANDOM RIPRAP CL II	RANDOM RIPRAP CL IV	GEOTEXTILE FILTER TYPE IV	GUIDE POST TYPE B
						FEET		FEET	%	LF	LF	LF	LF	LF	LF	LF	LF	EACH	EACH	EACH	EACH	EACH	EACH	CY	CY	SY	EACH
	5071	RAMP C1	450+48.95	76.32 LT	24" APR	857.71	5072	856.60	0.55		187											1 (24")					1
[7]	5072	RAMP C1	450+64.40	123.99 RT	24" APR		OUT											1 (24")						18.0		53.0	1
	5091	RAMP D	557+52.45	42.80 LT	24" APR	857.52	5092	856.98	0.35		141											1 (24")					1
[7]	5092	RAMP D	557+24.63	98.52 RT	24" APR		OUT											1 (24")						48.0		145.0	1
	5121	RAMP C1	441+96.67	39.21 RT	51" ARCH APR	854.01	EX	854.00	0.01							48				1 (51")			1				
	5122	RAMP C1	441+80.18	28.26 LT	18" APR	857.95	EX	854.62	27.75	11											1 (18")		1				
	5123	HWY 10 EB	341+75.99	31.65 LT	18" APR	856.62	EX	854.62	12.50	14											1 (18")		1				
	EX	RAMP A	141+92.96	1.76 RT	EXISTING	853.98	5124	853.98	0.01							32											
	5124	RAMP A	141+95.34	38.17 LT	51" ARCH APR		OUT		0.01											1 (51")			1	10.9		36.8	
	5125	RAMP C1	442+04.65	39.12 RT	51" ARCH APR	854.06	EX	853.99	0.13							48				1 (51")			1				1
	EX	RAMP A	142+00.52	2.43 RT	EXISTING	853.77	5126	853.72	0.13							32											
	5126	RAMP A	142+02.83	37.50 LT	51" ARCH APR		OUT		0.13											1 (51")			1	10.9		36.8	1
	5127	RAMP C1	442+14.35	39.41 RT	58" ARCH APR	854.33	EX	854.27	0.10								48			1 (58")			1				
	5128	RAMP C1	442+25.44	31.37 LT	18" APR	857.91	EX	855.25	16.63	8											1 (18")		1				
	5129	HWY 10 EB	342+29.10	32.09 LT	18" APR	856.16	EX	855.18	4.90	10											1 (18")		1				
	EX	RAMP A	142+09.68	3.81 RT	EXISTING	854.10	5130	854.06	0.10								32										
	5130	RAMP A	142+11.91	36.13 LT	58" ARCH APR		OUT													1 (58")			1	12.7		42.8	
	5151	RAMP A	149+99.51	49.67 RT	24" APR	856.62	5152	856.08	0.35		139											1 (24")					1
[7]	5152	RAMP A	149+68.68	100.17 LT	24" APR		OUT											1 (24")						15.0		46.0	1
	5185	WB HWY 10	354+98.46	47.92 LT	30" APR	858.11	5186	857.34	0.34				212									1 (30")						1
	5186	RAMP B CON	755+00.00	119.31 LT	30" APR		OUT											1 (30")						7.3		25.0	1
	5187	HANSON NB	17+44.61	164.70 RT	30" APR	857.34	5188	856.24	0.30				354					1 (30")										1
[7]	5188	HANSON SB	17+44.61	143.15 LT	30" APR		OUT											1 (30")						18.0		53.0	1
	EX	HWY 10 WB	370+99.09	36.44 LT	EXISTING	856.59	5236	855.34	3.20	33												1 (18")	1		7.8	14.8	1
	5236	HWY 10 WB	370+99.11	75.44 LT	18" APR		OUT																				1
	5250	N-NDALE CL	11+00.00	53.28 RT	30" APR	849.83	5251	849.62	0.20			94						1 (30")						7.3		25.0	1
	5251	N-NDALE CL	11+00.00	58.72 LT	30" APR		OUT											1 (30")									
	5263	N-NDALE CL	11+05.18	55.73 RT	18" APR	851.46	5264	851.32	0.35	28								1 (18")									
	5264	N-NDALE CL	11+45.18	55.08 RT	18" APR		OUT											1 (18")						3.9		14.8	
	5265	N-NDALE CL	13+07.19	51.78 RT	18" APR	850.83	5266	850.63	0.35	44								1 (18")									
	5266	N-NDALE CL	13+63.19	50.88 RT	18" APR		OUT											1 (18")						3.9		14.8	
[3],[5]	5267	N-NDALE CL	17+23.14	39.40 RT	36" APR	849.63	EX-5268	849.15	3.03						11				1 (36")				1				1
	5267A	N-NDALE CL			TEMPORARY		5267		3.03						3												
[5]	EX 5268	N-NDALE CL	17+22.36	23.42 RT	EXISTING	849.15	EX-5269	847.62	3.03																		
[5]	EX 5269	N-NDALE CL	17+19.91	27.05 LT	EXISTING	847.62	5270	847.14	3.03						11								1				
[5]	5270	N-NDALE CL	17+19.14	43.04 LT	36" APR		OUT												1 (36")						21.8	36.1	1
	5271	N-NDALE CL	15+60.00	54.82 LT	36" APR	847.78	5272	847.69	0.40					8				1 (36")									
	5272	N-NDALE CL	15+84.00	55.29 LT	36" APR		OUT											1 (36")									
	EX	HWY 10 EB	380+99.94	26.93 RT	EXISTING	855.75	5281	855.59	1.00	10																	
	5281	HWY 10 EB	381+00.07	42.93 RT	18" APR		OUT															1 (18")	1	3.9		14.8	1
	PROJECT TOTALS:									158	467	94	566	8	25	160	80	14	2	6	4	6	14	159.8	29.6	558.7	18

NOTES:
[1] STATIONS, OFFSETS AND INVERT ELEVATIONS ARE TO END OF APRON.
[2] ALL PIPE LENGTHS DO NOT INCLUDE LENGTH OF APRON. PIPE LENGTHS ON PROFILE SHEETS INCLUDE THE LENGTH OF APRON.
[3] AFTER REMOVAL OF TEMPORARY BYPASS NO. 1, REMOVE 11 LF OF PIPE AND INSTALL 36" GS PIPE APRON AT PERMANENT LOCATION AS INDICATED ON THE PLANS AND TABULATION.
[4] TIE ALL JOINTS ON ALL CULVERTS (INCIDENTAL)
[5] USE POSITIVE JOINTS ON ALL CORRUGATED METAL PIPE.
[6] ALL PIPES SHALL HAVE GASKETED JOINTS PER MNDOT STANDARD PLATE 3006
[7] SEE DRAINAGE DETAILS FOR RIPRAP DESIGN INTO POND.
[8] MODIFIED TO 1:10

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: ST-TAB07
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl L. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
STORM TABULATIONS
CULVERT TABULATION

CITY PROJECT 01-31	S.P. 0215-59	SHEET NO. 246 / 681
S.P. 02-678-17	S.P. 02-611-29	
	S.P. 114-020-28	
	S.P. 114-010-14	

PLOT DATE: Jan 07 3:35pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-ST.dwg

XrefId Drawings
REF-DWG-BDR
22x34bdr

WATER RESOURCE NOTES:

THE FOLLOWING NOTES GIVE INFORMATION ABOUT CRITICAL FEATURES AND ELEVATIONS FOR THE DRAINAGE ON THIS PROJECT:

1. CHANGING THE FLOW DIRECTION SHOWN ON THE PLANS COULD HAVE ADVERSE AFFECTS OFF THE PROJECT CORRIDOR. DIRECTION CHANGES SHOULD BE REVIEWED WITH WATER RESOURCES.

2. SPECIAL STRUCTURES INCLUDED IN THESE DRAINAGE PLANS:

   STRUCTURE 5029 (DESIGN SPECIAL 1) – MECHANICAL SEPARATOR REQUESTED BY THE CITY OF COON RAPIDS TO REMOVE SEDIMENT PRIOR TO DISCHARGE INTO POND C MINIMIZING MAINTENANCE WITHIN THE POND.

   STRUCTURE 5042 (DESIGN SPECIAL 2) – 78" OUTLET CONTROL STRUCTURE FOR POND D. THIS STRUCTURE PROVIDES SKIMMING VIA A SUBMERGED 42" RC PIPE. A SPECIAL GRATE WILL BE CONSTRUCTED ON TOP OF STRUCTURE. THE 42" RC PIPE OUTLET CONTROLS THE NORMAL WATER LEVEL.

   STRUCTURE 5082 (4020-66") – 66" OUTLET CONTROL STRUCTURE FOR POND C. THIS STRUCTURE PROVIDES SKIMMING VIA A SUBMERGED 30" RC PIPE. THE 30" RC PIPE OUTLET CONTROLS THE NORMAL WATER LEVEL.

   STRUCTURE 5142 (DESIGN SPECIAL 3) – 48" OUTLET CONTROL STRUCTURE FOR POND A. THIS STRUCTURE PROVIDES SKIMMING VIA A SUBMERGED 24" RC PIPE. THE 24" RC PIPE OUTLET CONTROLS THE NORMAL WATER LEVEL. A SPECIAL GRATE WILL BE CONSTRUCTED ON TOP OF STRUCTURE.

3. FUTURE CONNECTIONS/DESIGN CONSIDERATIONS:

   COORDINATION WITH MnDOT WILL BE REQUIRED UPON COMPLETION OF THEIR DESIGN FOR THE T.H. 10 EXPANSION PROJECT AND PRIOR TO CONSTRUCTION OF THIS PROJECT.

4. PONDING AREAS:

   POND A
   NWL = 856.00 FEET, 100-YEAR HWL = 858.00 FEET
   NWL CONTROLLED BY THE ELEVATION OF STRUCTURE 5142

   POND C
   NWL = 856.50 FEET, 100-YEAR HWL = 859.79 FEET
   NWL CONTROLLED BY THE ELEVATION OF STRUCTURE 5082

   POND D
   NWL = 857.00 FEET, 100-YEAR HWL = 861.05 FEET
   NWL CONTROLLED BY THE ELEVATION OF STRUCTURE 5042

5. NO WATER QUALITY SITES ARE INCLUDED.

6. ENVIRONMENTALLY SENSITIVE AREAS:

   AREAS MARKED "WETLAND" IN THIS PLAN ARE TO BE TREATED AS ENVIRONMENTALLY SENSITIVE AREAS. BEST MANAGEMENT PRACTICES ARE TO BE USED FOR EROSION AND SEDIMENT CONTROL THORUGH THE JOB SITE.

7. THE FOLLOWING PERMITS APPLY:

   NPDES
   COON CREEK WATERSHED DISTRICT

8. NPDES PERMIT:

   STORMWATER RUNOFF FROM T.H. 10, HANSON BOULEVARD AND NORTHDALE BOULEVARD FLOWS THROUGH VARIOUS WET DETENTION BASINS OR DITCHES PRIOR TO DISCHARGING TO COON CREEK.

9. TEMPORARY DRAINAGE AND TEMPORARY STRUCTURES:

   THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE WITHIN THE WORK ZONE. TEMPORARY PIPES, STRUCTURES AND GRADING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL PAYMENT MADE FOR THIS WORK.

   TEMPORARY CONNECTIONS TO THE EXISTING DRAINGE FACILITY AS SHOWN IN THE PLANS ARE INTENDED TO BE REMOVED ONCE THE PERMANENT STORM SEWER IS IN PLACE.

   IT IS THE INTENT OF THE DRAINAGE DESIGN TO FACILITATE REMOVAL OF THE MAJORITY OF EXISTING STORM SEWER UNDER NEW PAVEMENT, AS SHOWN IN THE REMOVALS TABULATION.

10. TEMPORARY WETLAND IMPACTS:

    WETLAND AREAS TEMPORARILY DISTURBED BY GRADING ACTIVITIES OR UTILITY INSTALLATION WORK SHALL BE RESTORED WITHIN SIX MONTHS OF INITIAL DISTURBANCE.

    STRIP INPLACE ORGANIC SOILS AND VEGETATION (12" MIN.) PRIOR TO OTHER GRADING AND UTILITY WORK AND STOCKPILE MATERIAL FOR REUSE. REMOVE ALL TEMPORARY FILL SOILS, REPLACE STRIPPED TOPSOILS, AND SEED PER THE TURF ESTABLISHMENT PLANS UPON COMPLETION OF GRADING WORK. TEMPORARY SEEDING WILL BE REQUIRED PER THE SWPPP.

CASTING ASSEMBLIES SUMMARY

ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	STANDARD PLATE	QUANTITY	REMARKS
A-7	700-7			4101	14	MANHOLE
		716		7110		
B-5	802A			4129	79	CATCHBASIN
		816		4154		
		823		4160		
B-9	805			4132	12	CATCHBASIN
		816		4154		
D-4	805			4132	3	CATCHBASIN
		816		4154		
PROJECT TOTALS					108	

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: KG | DESIGN BY: BJK
CHKED. BY: SAW | DWG. NAME: H2ONOTES
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

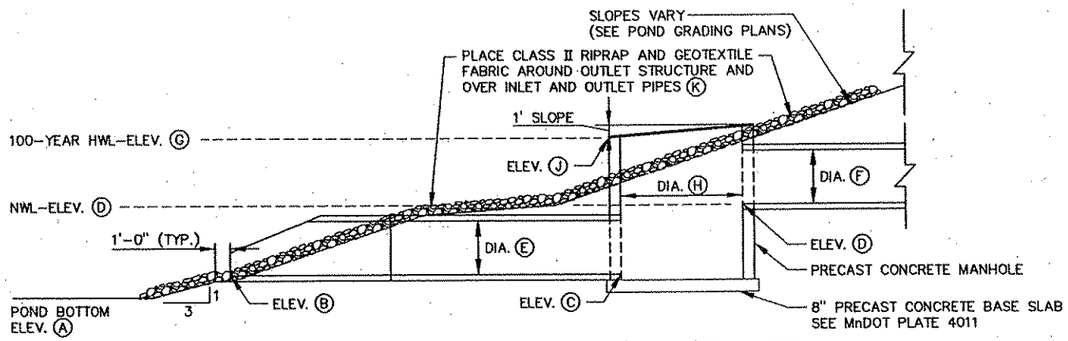
TH 10/HANSON BOULEVARD INTERCHANGE
WATER RESOURCES
NOTES
CASTING ASSEMBLIES SUMMARY TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 247 / 681

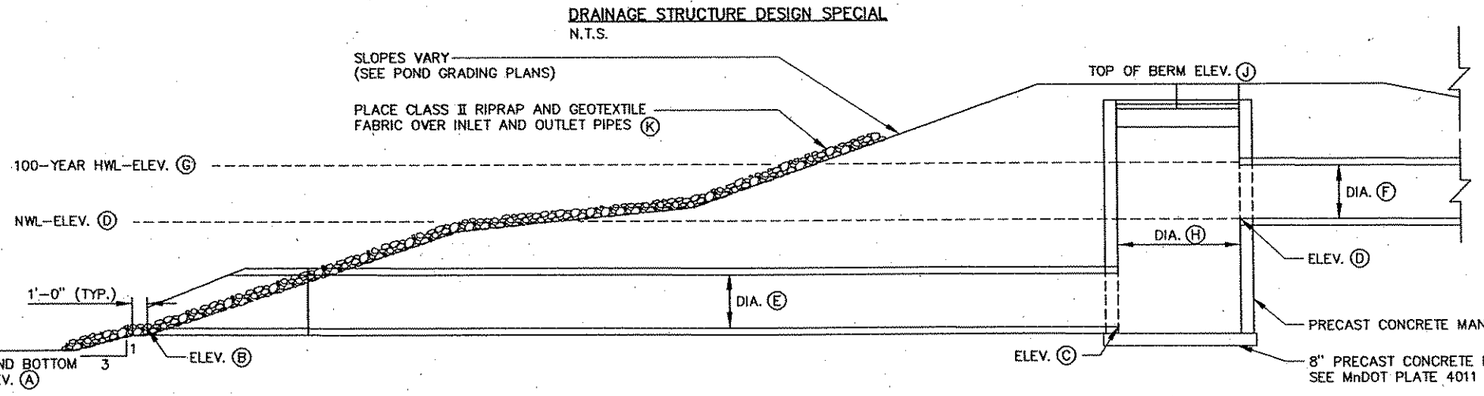
PLOT DATE: Jan 07 10:06am DISK: FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-H2.DWG

Xref'd Drawings
REF--DWG--BDR
22x34bdr



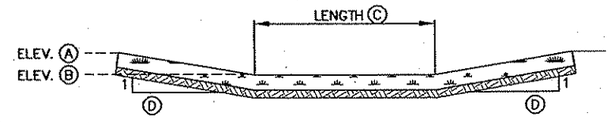
STRUCTURE NUMBER	POND	ELEV. (A)	ELEV. (B)	ELEV. (C)	ELEV. (D)	DIA. (E)	DIA. (F)	ELEV. (G)	DIA. (H)	ANGLE (I)	ELEV. (J)	VOLUME (K)
5042 (SPECIAL 2)	D	852.00	852.50	852.46	857.0	42 IN	42 IN	861.1	78 IN	108°	861.1	40 C.Y.
5142 (SPECIAL 3)	A	851.50	852.00	852.50	856.0	24 IN	24 IN	858.0	48 IN	180°	858.1	15 C.Y.

DRAINAGE STRUCTURE DESIGN SPECIAL
N.T.S.



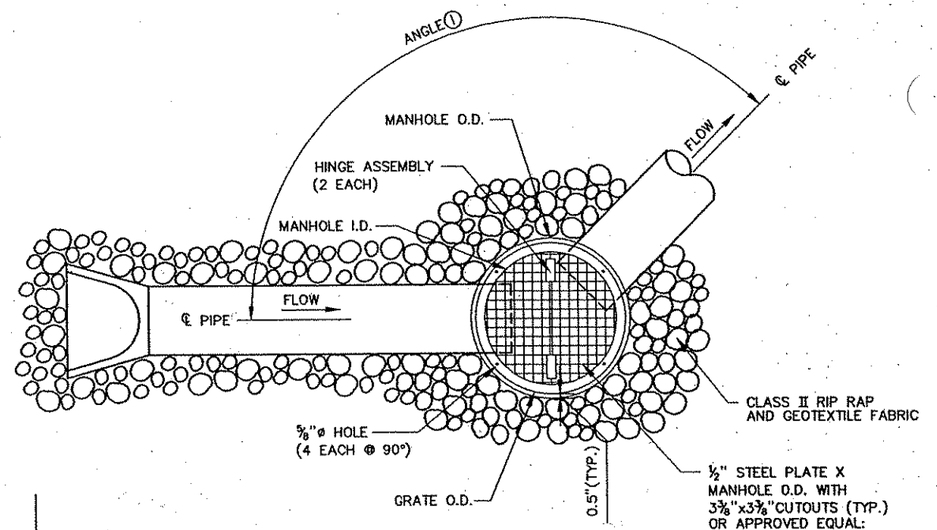
STRUCTURE NUMBER	POND	ELEV. (A)	ELEV. (B)	ELEV. (C)	ELEV. (D)	DIA. (E)	DIA. (F)	ELEV. (G)	DIA. (H)	ANGLE (I)	ELEV. (J)	VOLUME (K)
5082	C	852.50	853.00	852.93	856.5	30 IN	30 IN	859.8	66 IN	94°	863.0	20 C.Y.

POND OUTLET STRUCTURE
N.T.S.



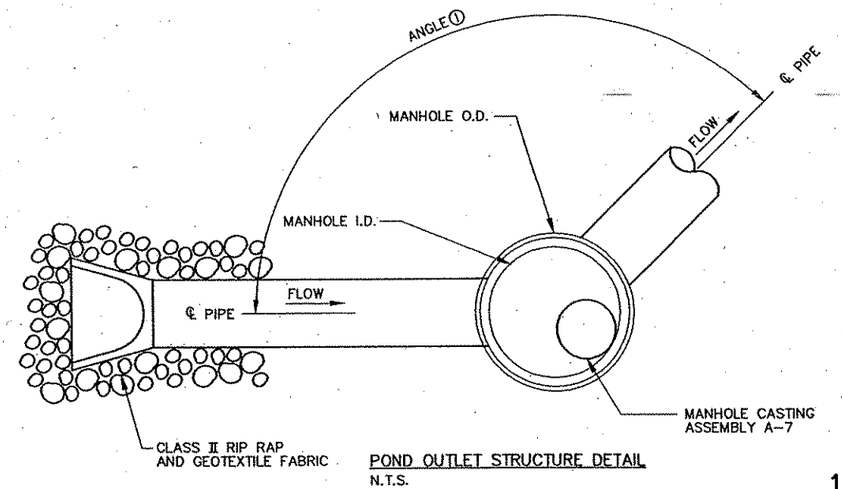
POND	ELEV. (A)	ELEV. (B)	LENGTH (C)	SLOPE (D)
A	859.5	858.2	10 FT	3
C	863.0	859.8	10 FT	6

POND EMERGENCY SPILLWAY
N.T.S.



1. GRATE SHALL BE MADE IN 2 PIECES.
2. ALL METAL SHALL BE HOT DIPPED GALVANIZED.
3. FASTEN GRATE TO STRUCTURE WITH FOUR 1/2"-13 UNC HEX HEAD STAINLESS STEEL BOLTS, NUTS & WASHERS.

DRAINAGE STRUCTURE DESIGN SPECIAL 2 & 3 GRATE DETAIL
N.T.S.



POND OUTLET STRUCTURE DETAIL
N.T.S.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: ALW
CHKED. BY: SAW | DWG. NAME: 042DRNDET01
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE DETAILS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 248 / 681

PLOT DATE: Jan 07 10:04am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-DRNDET01.dwg

Xref'd Drawings
REF-DWG-BDR
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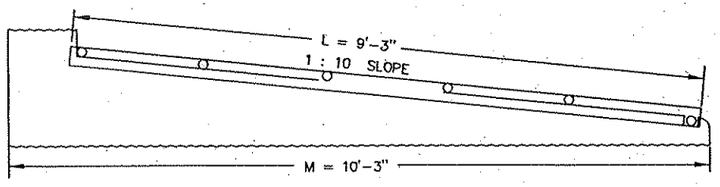
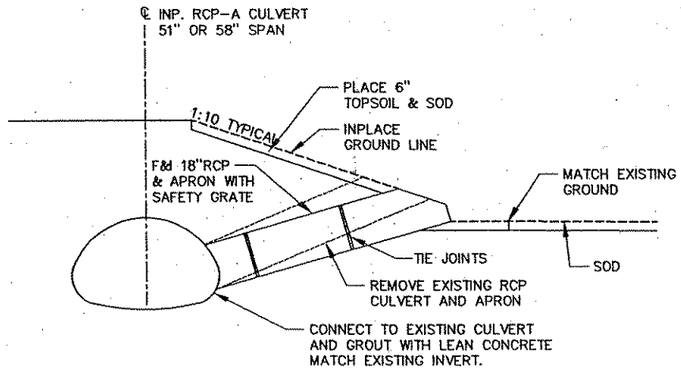
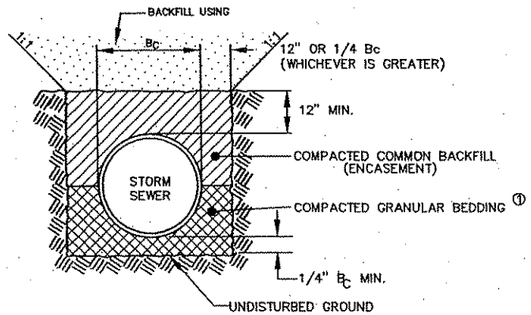


NUMBER OF BARS = 6 DIA OF BARS = 1-1/2"
NUMBER OF GRATE SECTIONS = 2
SEE STANDARD PLATE 3128 FOR OTHER DETAILS

18" CS SAFETY APRON & GRATE DESIGN 3128
(MODIFIED TO 1 : 10 SLOPE)

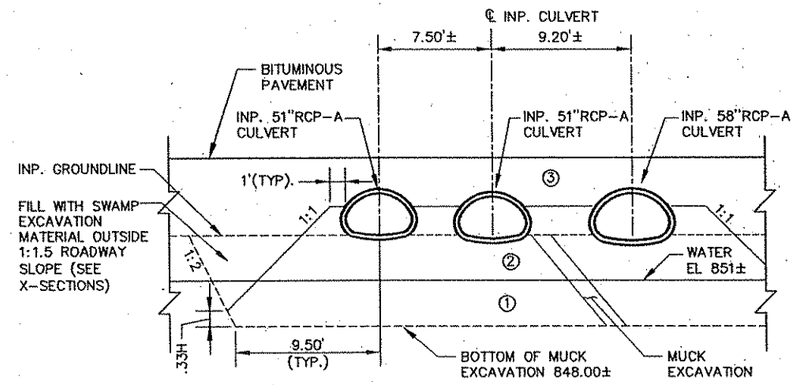


DROP INLET
TH 10 MEDIAN DITCH AND EB TH 10 DITCH



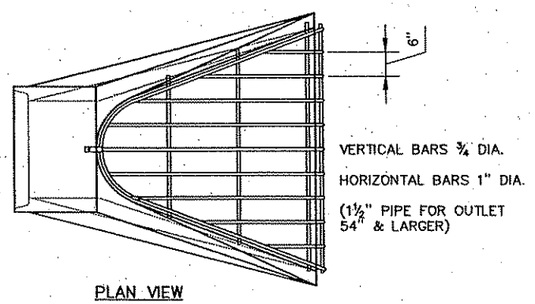
① GRANULAR BEDDING AND BACKFILL MATERIALS SHALL BE APPROVED BY THEN ENGINEER PRIOR TO PLACEMENT. ALL BEDDING AND BACKFILL SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PIPE.

CONCRETE PIPE BEDDING (CLASS B)

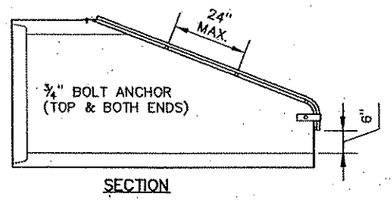


NOTES:
① BACKFILL WITH SELECT GRANULAR MODIFIED BELOW THE EXISTING GROUND WATER ELEVATION.
② BACKFILL ABOVE GROUND WATER ELEVATION TO SPRING LINE OF CULVERT PIPE WITH SELECT GRANULAR MOD 10%.
③ BACKFILL OVER CULVERTS WITH SELECT GRADING MATERIAL SEE X-SECTIONS.
④ TIE ALL PIPE JOINTS ON NEW PIPE AND ON EXISTING PIPE IF EXPOSED (INCIDENTAL).
⑤ CLASS B BEDDING REQUIRED ON ARCH PIPE CULVERTS.

CULVERT INSTALLATION
TH 10 E.B. STA. 342+00



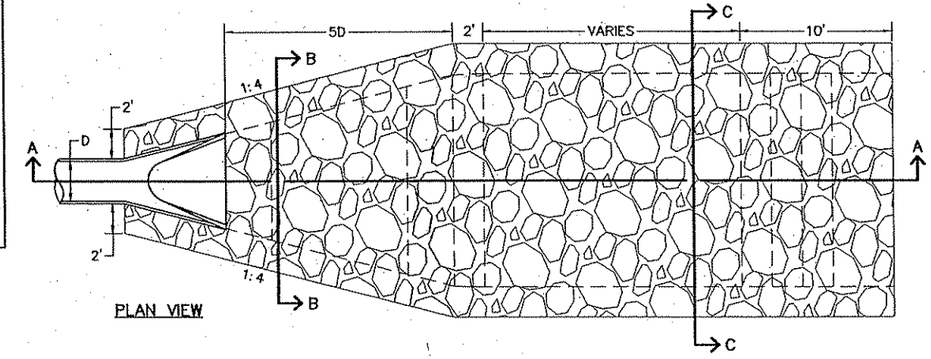
PLAN VIEW



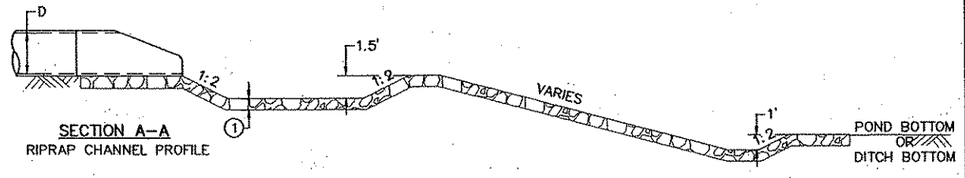
SECTION

1. MOUNTING HOLES SHALL BE DRILLED IN APRON AT TIME OF INSTALLATION.
2. THE SIZE OF EACH TRASH GUARD WILL VARY TO FIT APRON.
3. AFTER FABRICATION, TRASH GUARD SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH MnDOT SPEC. 3392.
4. THE LAST 3 PIPE SECTIONS SHALL BE TIED.

TRASH GUARD FOR END SECTION
N.T.S.



PLAN VIEW



SECTION A-A
RIPRAP CHANNEL PROFILE

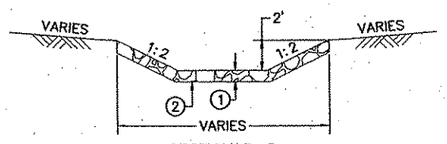
GENERAL NOTES

① SEE TABULATIONS AND STANDARD PLATE 3133 OR 3134 FOR RIPRAP DIMENSIONS.

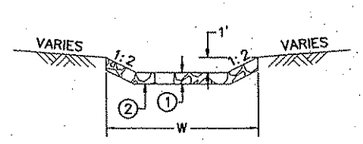
② GEOTEXTILE FILTER MATERIAL REQUIRED UNDER RIPRAP PER SPEC. 3733.

– ALL GRADING REQUIRED FOR INSTALLATION OF RIPRAP CHANNEL SHALL BE CONSIDERED INCIDENTAL.

– FOR PIPES GREATER THAN 48", SPECIAL DESIGN IS REQUIRED.



SECTION B-B
RIPRAP LINED CHANNEL



SECTION C-C
RIPRAP LINED CHANNEL

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: RTW | DESIGN BY: TS
CHKED. BY: SAW | DWG. NAME: 042DRNDET02
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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

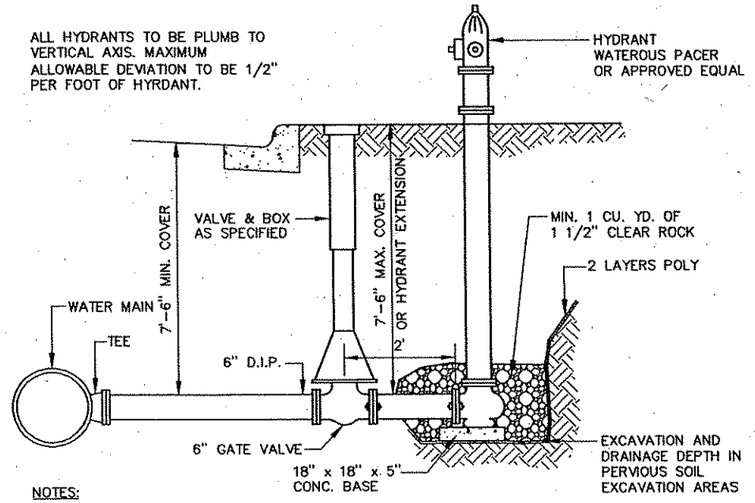
TH 10/HANSON BOULEVARD INTERCHANGE
DRAINAGE DETAILS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 249 / 681

PLOT DATE: Jan 07 10:05am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-DR 02.dwg

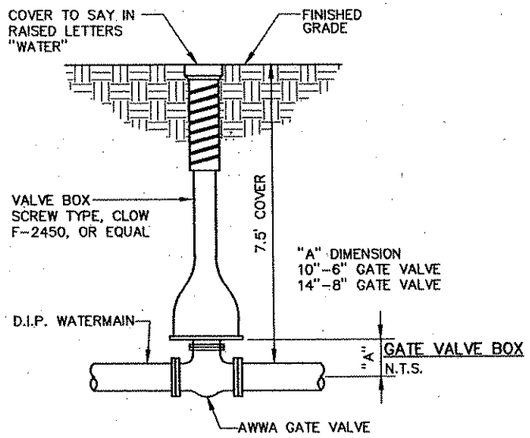
Xref'd Drawings
REF-DWG-BDR
22x34bdr



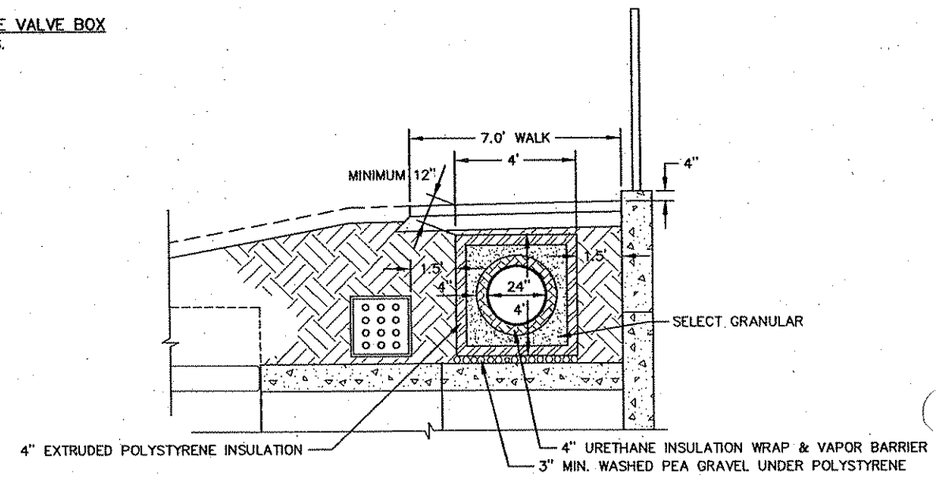
NOTES:

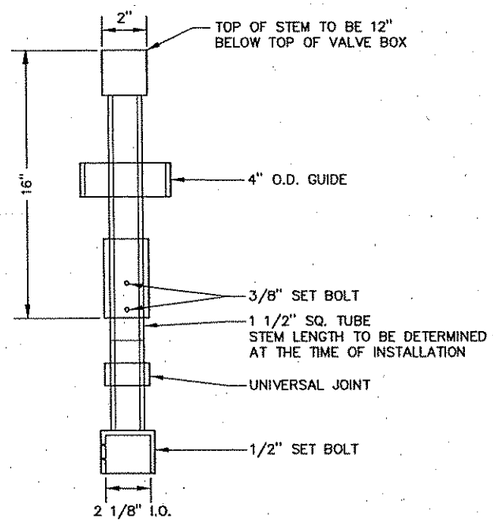
1. ALL HYDRANTS SHALL HAVE WEEPHOLES.
2. ALL JOINTS SHALL BE RESTRAINED WITH MEGA LUGS OR OTHER APPROVED RETAINER GLANDS.
3. HYDRANTS SHALL BE REPAINTED AFTER INSTALLATION.

TYPICAL HYDRANT INSTALLATION
N.T.S.

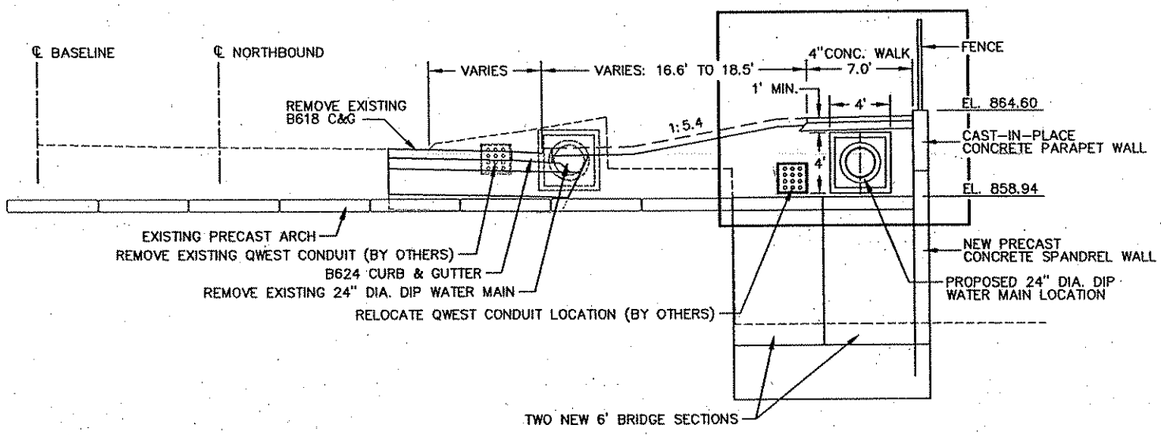


GATE VALVE BOX
N.T.S.





VALVE EXTENSION STEM DETAIL
N.T.S.



WATERMAIN INSULATION OVER BEBO DETAIL
N.T.S.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: RTW | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: 042WATDET01
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
WATERMAIN DETAILS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 250 / 681

PLOT DATE: Jan 07 10:19am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-WA 11.dwg

Xref'd Drawings
karl-keel-sig
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HNSN-PUT
PRF-HANS
HNSN-EUT
DWG-BD
ESU
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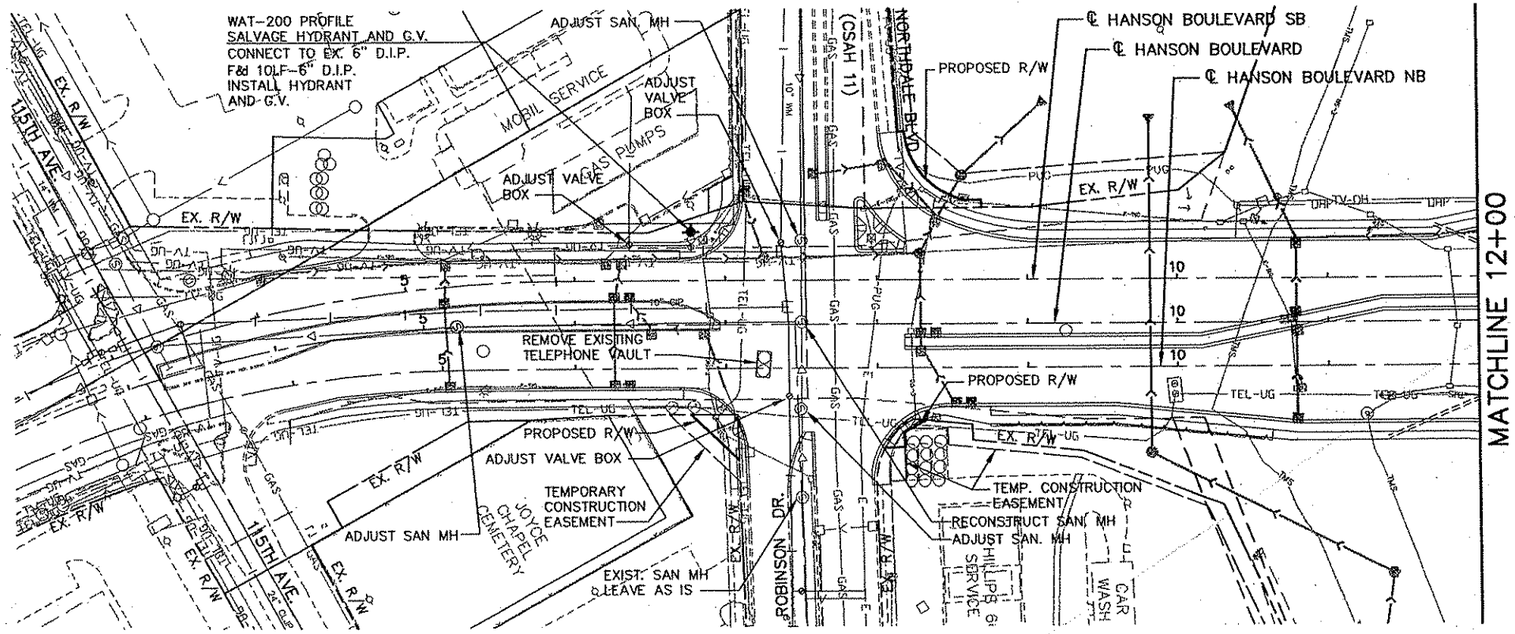
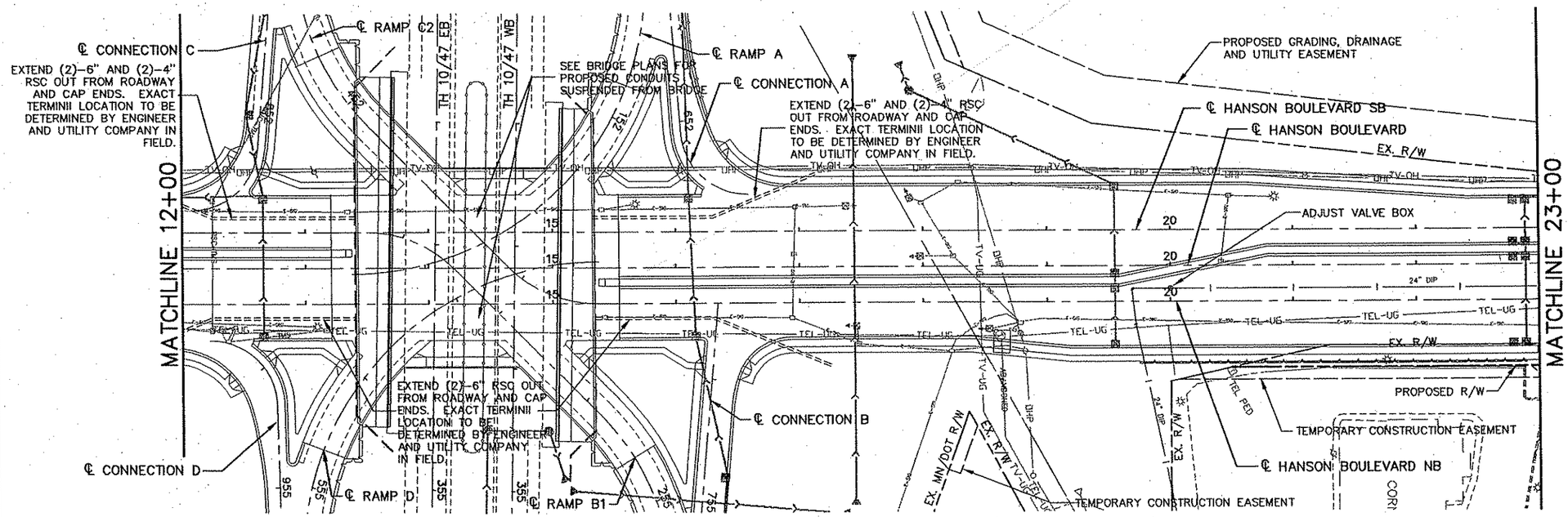


HANSON BOULEVARD



LEGEND

- EXISTING SANITARY SEWER
- HYD. G.V. — EXISTING WATERMAIN
- PROPOSED SANITARY SEWER
- HYDRANT G.V. — PROPOSED WATERMAIN

0 25 50 100
SCALE IN FEET

NOTES

SEE DRAINAGE PLANS FOR PROPOSED STORM SEWER

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ. | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: 042PUT01
DATE: JANUARY 8, 2007

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Minneapolis, MN 55415
612.370.0700 Tel
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE
UTILITY PLAN
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 251 / 681

PLOT DATE: Jan J07 10:12am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-PU

Xref'd Drawings
042PUTNOTE
PRD-ESM
HNSN-ALJ
HNSN-PUT
HNSN-EUT
REF-DWG-BDR
HNSN-ESU
HNSN-ETO
HNSN-
22x

WAT 201 PROFILE
F& I 162 LF 12" DIP
F& I 12" x 10" TEE
F& I (1) 12" - 90° BEND
F& I (1) 12" PLUG

WAT-201A PROFILE
F& I 33 LF-10" DIP
F& I 10" PLUG

REMOVE EXISTING PLUG/BULKHEAD
CONNECT TO EXISTING 12" WM
ADJUST VALVE BOX

PROPOSED GRADING, DRAINAGE
AND UTILITY EASEMENT

PROPOSED R/W

℄ HANSON BOULEVARD SB

℄ HANSON BOULEVARD

EX. R/W

LOON CREEK

STA AHEAD: 331+49.56
STA BACK: 333+46.93

MATCHLINE 23+00

ADJUST VALVE BOX

PROPOSED R/W

PROPOSED R/W
TEMP. CONSTRUCTION EASEMENT.

CONNECT TO
EXISTING
WATERMAIN

CUT IN 24" BUTTERFLY
VALVE PRIOR TO
RELOCATION OF MAIN

CONNECT TO EXISTING
WATERMAIN

℄ HANSON BOULEVARD NB

STA AHEAD: 321+94.25
STA BACK: 325+05.04

WAT 203 PROFILE
F& I 179 LF 24" DUCTILE IRON
BALL JOINT PIPE
F& I FOUR (4) 11¼° BENDS AS NEEDED

PROPOSED GRADING
DRAINAGE AND
UTILITY EASEMENT

WAT-202 PROFILE
F&I HYDRANT AND G.V.
CONNECT TO EXISTING 8"WM
F&I 31 LF-8" D.I.P.
F&I 8"x6" TEE
F&I 5 LF-6" D.I.P.
F&I 8" PLUG
F&I 1.5" CORPORATION STOP
F&I 1.5" CURB STOP & BOX
20 LF-1.5" TYPE K COPPER PIPE
RECONNECT 1.5" COPPER WATER
SERVICE TO 8" D.I.P.

SALVAGE HYDRANT
REMOVE 13 LF-6"HYDRANT LEAD
REMOVE EXISTING 8"X6" TEE

℄ NORTHDALE BOULEVARD
(CSAH 11)

LION'S COON CREEK PARK

HANSON BOULEVARD

LEGEND

- EXISTING SANITARY SEWER
- HYD. G.V. — EXISTING WATERMAIN
- PROPOSED SANITARY SEWER
- HYDRANT G.V. — PROPOSED WATERMAIN

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: 042PUT02
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
UTILITY PLAN
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 252 / 681

PLOT DATE: Jan 0 7 10:12am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-PUT

World Drawings
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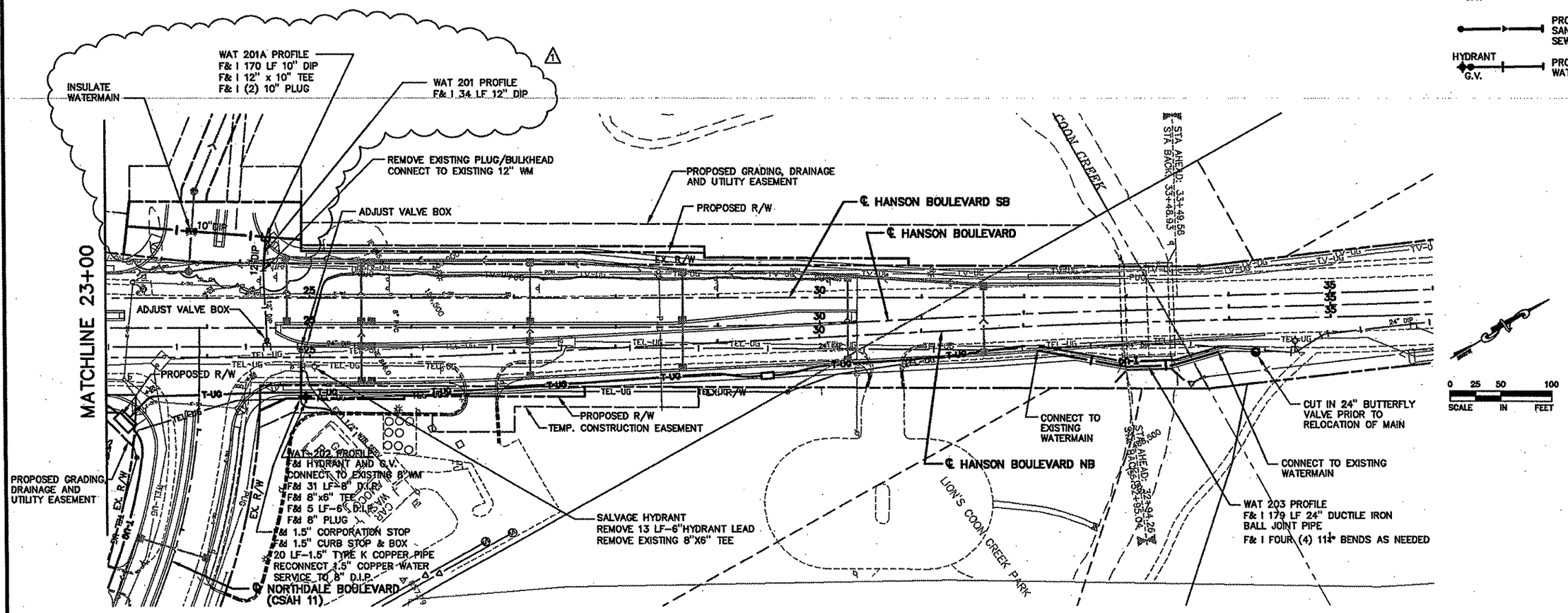
HNSN--PUT
HNSN--EUT
REF--DWG--BD2
HNSN--ESU
HNSN--ETG
HNSN--PCD
22x34bdr



HANSON BOULEVARD

2 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	4/10/07	REALIGN, CHANGED WM PIPE SIZE PER L-0001

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: 042PUT02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

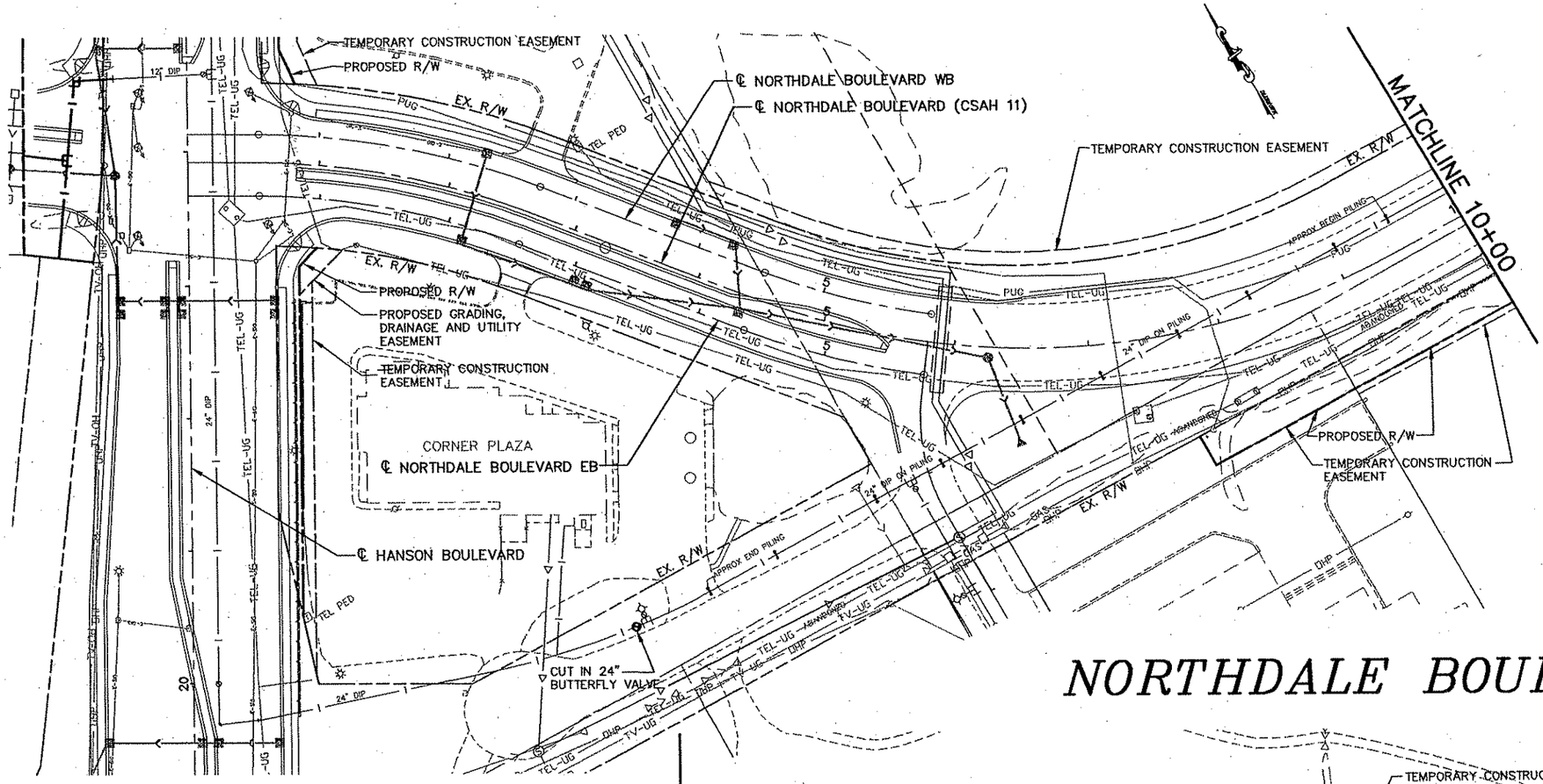
TH 10/HANSON BOULEVARD INTERCHANGE
UTILITY PLAN
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

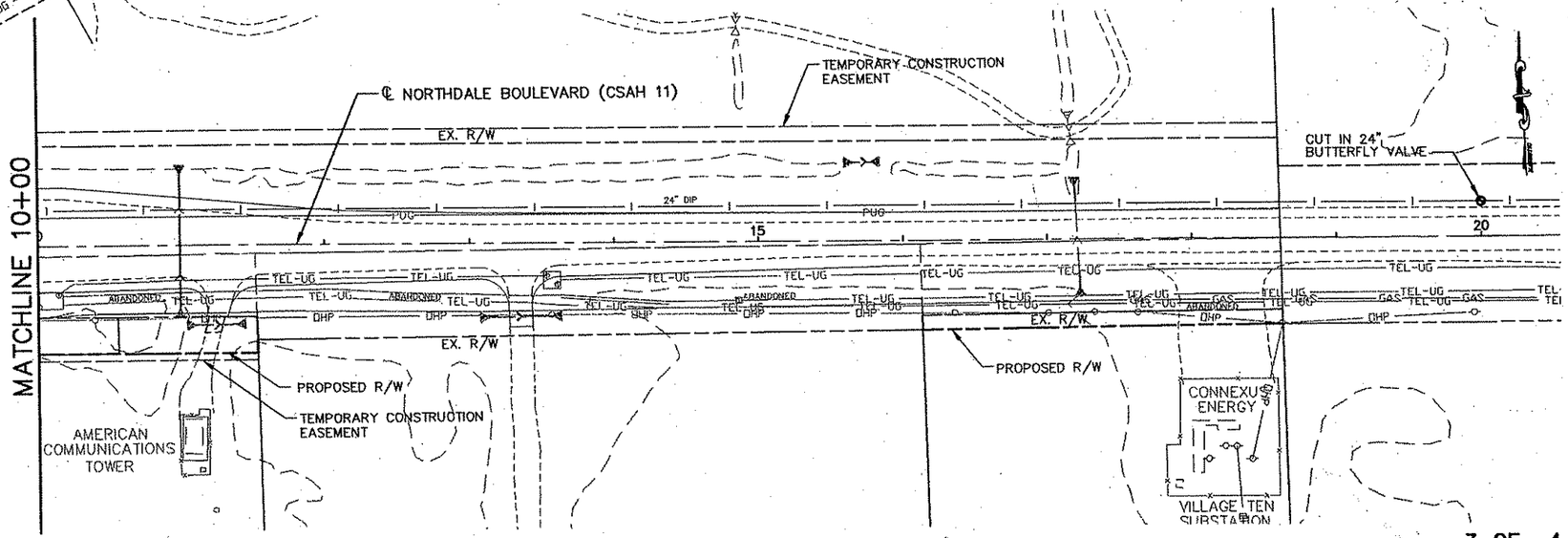
SHEET NO. 252 / 681

PLOT DATE: Apr 10, 2007 9:05am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-PUT02.dwg

Xref'd Drawings
042PUTNOTE
PRD-ESM
HNSN-ALI
HNSN-PUT
HNSN-EUT
REF-DWG-BDR
-ESU
-STO



NORTHDALE BOULEVARD



LEGEND

- EXISTING SANITARY SEWER
- HYD. G.V. — EXISTING WATERMAIN
- PROPOSED SANITARY SEWER
- HYDRANT G.V. — PROPOSED WATERMAIN

NOTES

SEE DRAINAGE PLANS FOR PROPOSED STORM SEWER

SCALE 0 25 50 100 IN FEET

NOTES:

1. CUT IN (2) 24" BUTTERFLY VALVES PRIOR TO PLACING SURCHARGE ON NORTH SIDE OF NORTHDALE BOULEVARD.
2. CONTRACTOR SHALL PRESSURE TEST WATERMAIN UPON REMOVAL OF THE SURCHARGE MATERIAL AND AGAIN UPON COMPLETION OF WORK ON NORTHDALE BOULEVARD.
3. PRESSURE TESTING, INCLUDING LABOR AND MATERIALS TO INSTALL BLEED OFFS, SHALL BE INCIDENTAL TO OTHER WORK.
4. EXACT LOCATION OF AND TIMING OF INSTALLATION OF 24" VALVES SHALL BE COORDINATED IN THE FIELD WITH THE ENGINEER IN ACCORDANCE WITH THE CONTRACTORS STAGING PLAN.
5. CONTRACTOR SHALL COORDINATE TEMPORARY WATER SHUT OFFS WITH CITY UTILITY DEPARTMENT. 48 HOUR NOTICE FOR ALL SHUT OFFS SHALL BE PROVIDED TO CITY STAFF, RESIDENTS AND BUSINESSES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: 042PUT03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
UTILITY PLAN
NORTHDALE BOULEVARD

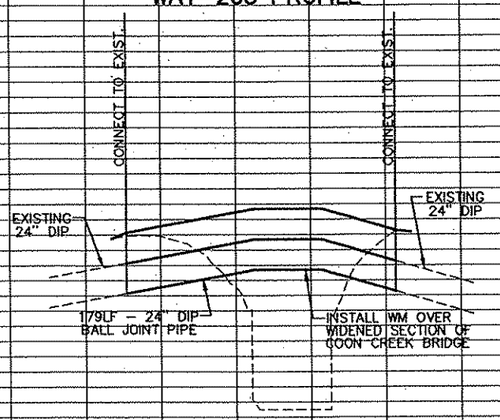
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 253 / 681

PLOT DATE: Jan 7 10:13am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-PUT

Xref'd Drawings
HNSN-PUTPR
STGrid22x34
REF-DWG-BDR
22x34bdr

WAT-203 PROFILE



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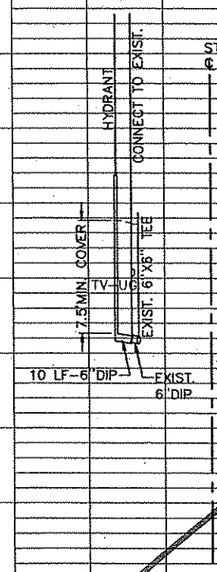

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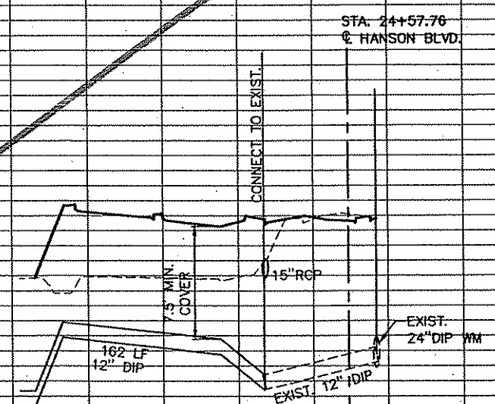

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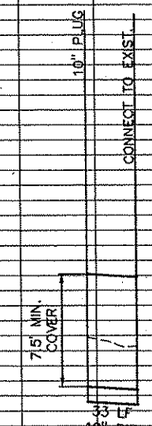

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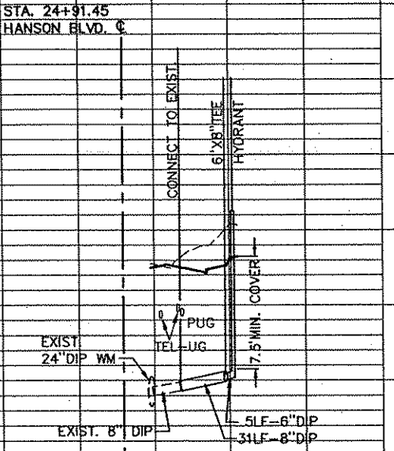


PROPOSED WATERMAIN PROFILES

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: PUTPRF01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
UTILITY PROFILES

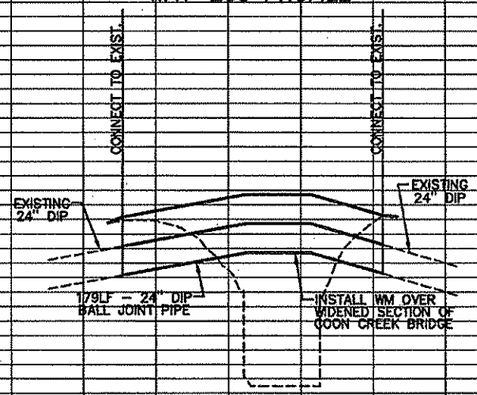
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 254 / 681

PLOT DATE: Jan 07 10:19am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042PUTPR

Xref'd Drawings
HNSN-PUTPR
STGrid22x34
REF-DWG-BDR
22x34bdr

WAT-203 PROFILE



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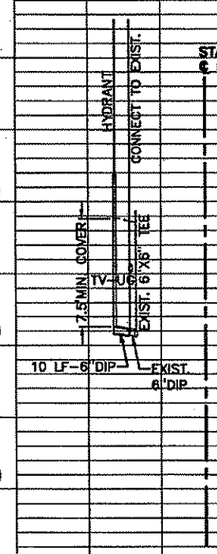

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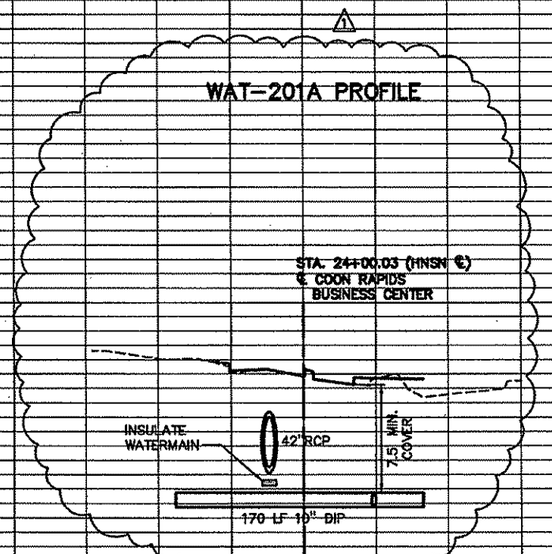

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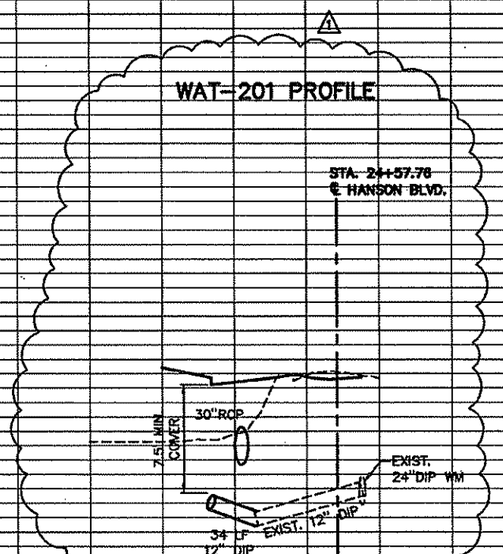

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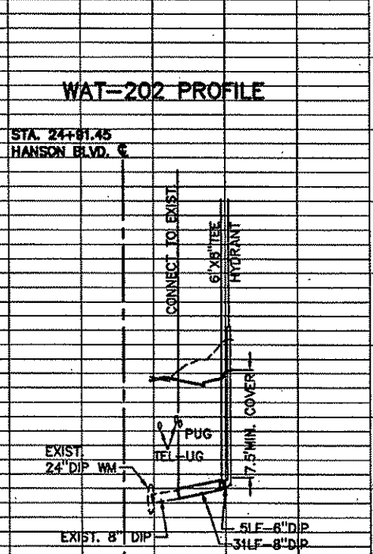


PROPOSED WATERMAIN PROFILES

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	4/10/07	REALIGN, REVISED PRF 201, 201A PER L-0001

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: PUTPRF01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19881

TH 10/HANSON BOULEVARD INTERCHANGE
UTILITY PROFILES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

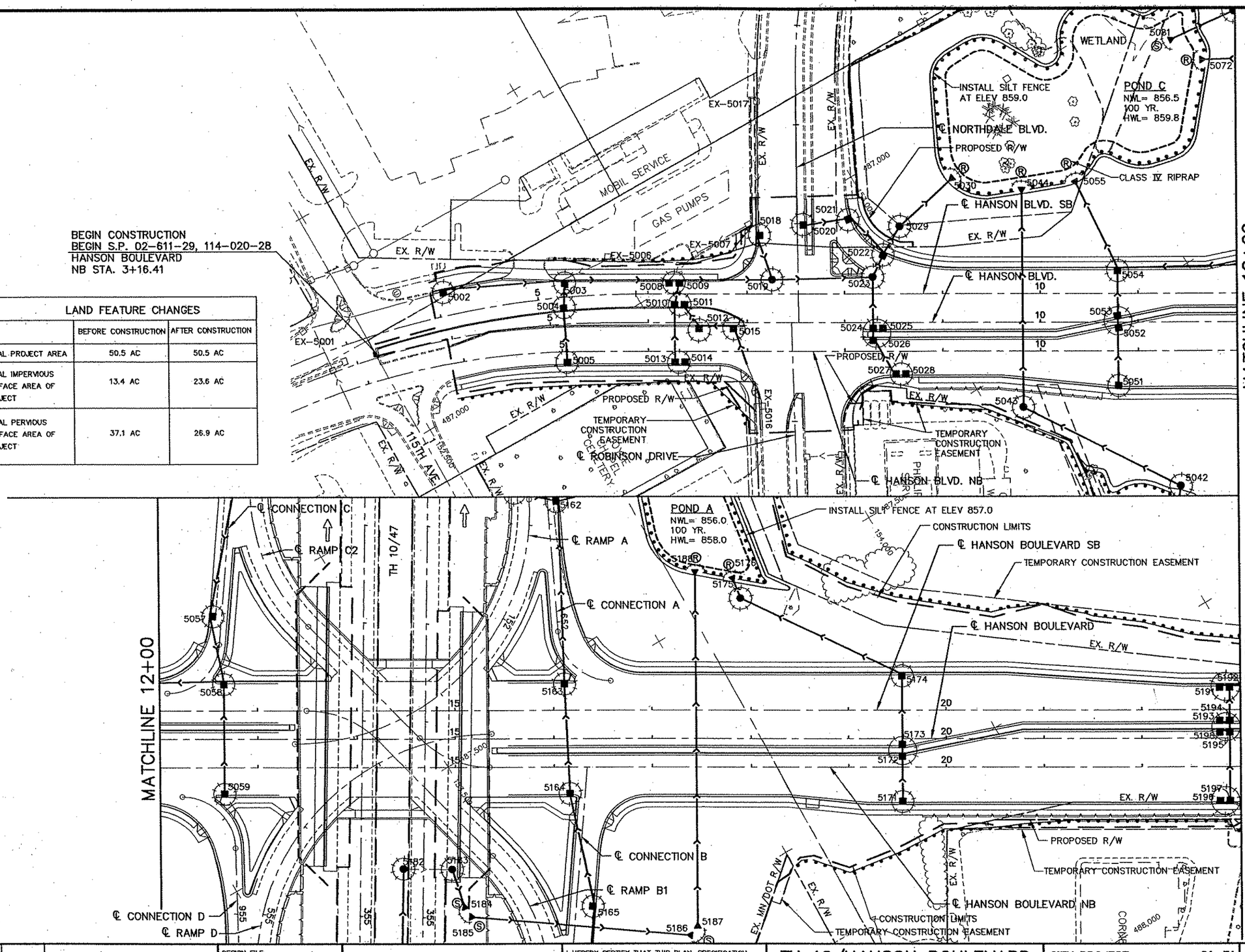
SHEET NO. 254 / 681

PLOT DATE: Apr 10, 2007 8:07am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042PUTPRF01.dwg

Xref'd Drawings
hnsn-walls
HNSN-WETL
HNSN-EROSION
HNSN-PUT
042ECNOTES
HNSN-CON-LTM
HNSN-PCO
SM
REF-L
HNSN-ESU
22x34bdr

BEGIN CONSTRUCTION
BEGIN S.P. 02-611-29, 114-020-28
HANSON BOULEVARD
NB STA. 3+16.41

LAND FEATURE CHANGES		
	BEFORE CONSTRUCTION	AFTER CONSTRUCTION
TOTAL PROJECT AREA	50.5 AC	50.5 AC
TOTAL IMPERVIOUS SURFACE AREA OF PROJECT	13.4 AC	23.6 AC
TOTAL PERVIOUS SURFACE AREA OF PROJECT	37.1 AC	26.9 AC



LEGEND

5000	STRUCTURE NUMBER
■	PROPOSED CATCH BASIN
□	INPLACE CATCH BASIN
●	PROPOSED MANHOLE
○	INPLACE MANHOLE
▶	PROPOSED APRON
▷	INPLACE APRON
→	PROPOSED STORM SEWER
—>	INPLACE STORM SEWER
▷—>—◁	INPLACE CULVERT
	MACHINE SLICED SILT FENCE
	HEAVY DUTY SILT FENCE
Ⓡ	RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
Ⓢ	SOD APRON INLET OR OUTLET
	FILTER LOG TYPE STRAW BIOROLL
	SURFACE FLOW ARROW
	STORM DRAIN INLET PROTECTION
	CULVERT PROTECTION
	WETLAND BOUNDARIES

0 25 50 100
SCALE IN FEET

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR ⅓ OF SILT FENCE HEIGHT.

4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

5.) IF SILT DEPOSITS IN MNDOT RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

6.) UNLESS MORE STRINGENT CRITERIA IS PROVIDED ELSEWHERE IN CONTRACT DOCUMENTS, STABILIZING VEGETATION SHALL BE PROVIDED FOR DISTURBED AREAS WITHIN TWO WEEKS OF ROUGH GRADING.

1 OF 9

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: TJS
CHKED. BY: SAW | DWG. NAME: EC-HNSN01
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

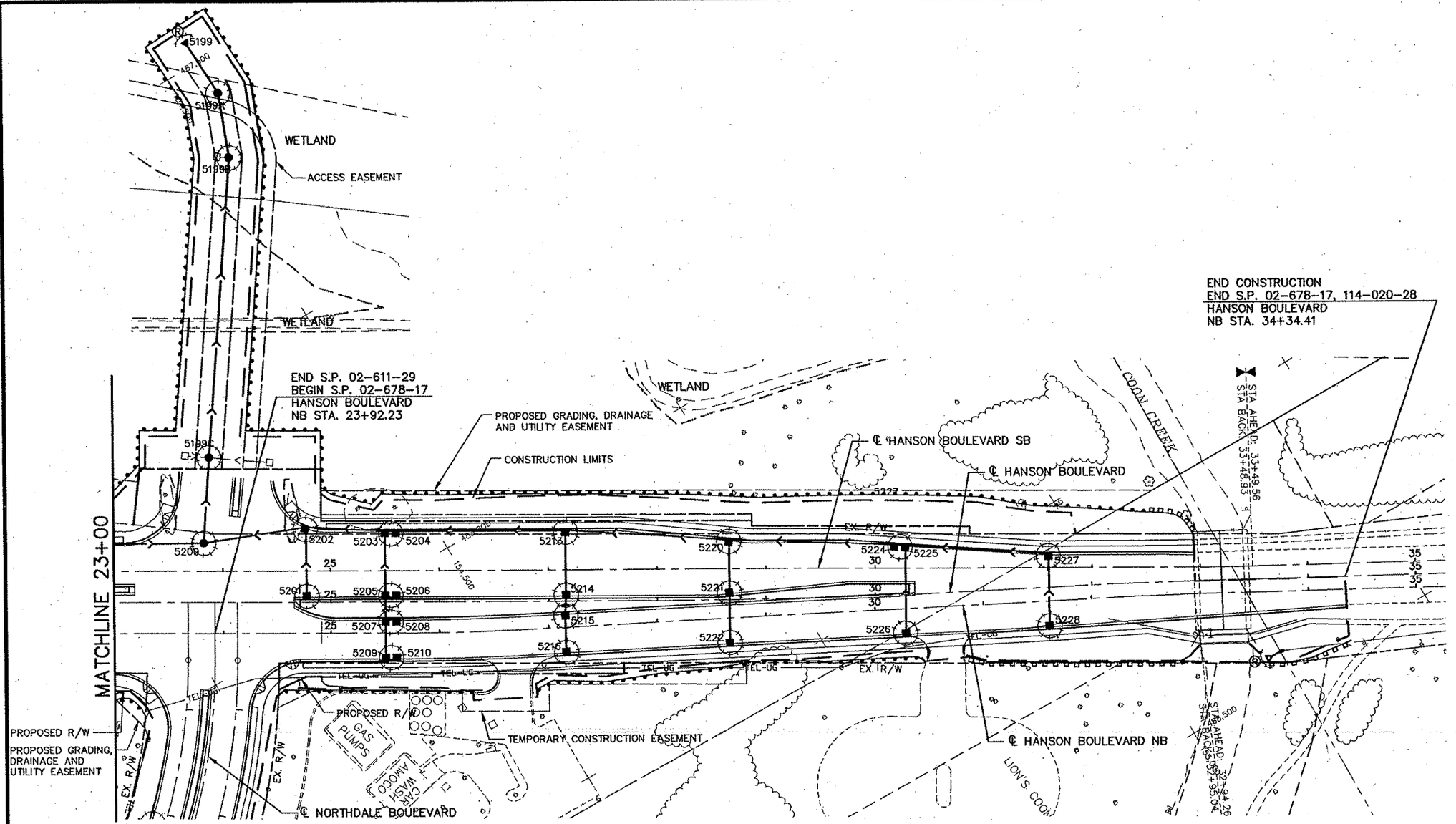
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
EROSION CONTROL PLANS
HANSON BOULEVARD
STATION 3+16.41 TO STATION 23+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 255 / 681

PLOT DATE: Jan 07 10:06am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-EC-.dwg



LEGEND

- 5000 STRUCTURE NUMBER
- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INPLACE CULVERT
- MACHINE SLICED SILT FENCE
- HEAVY DUTY SILT FENCE
- Ⓡ RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- Ⓢ SOD APRON INLET OR OUTLET
- FILTER LOG TYPE STRAW BIOROLL
- SURFACE FLOW ARROW
- STORM DRAIN INLET PROTECTION
- CULVERT PROTECTION
- WETLAND BOUNDARIES

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR ⅓ OF SILT FENCE HEIGHT.

4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

5.) IF SILT DEPOSITS IN MNDOT RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

6.) UNLESS MORE STRINGENT CRITERIA IS PROVIDED ELSEWHERE IN CONTRACT DOCUMENTS, STABILIZING VEGETATION SHALL BE PROVIDED FOR DISTURBED AREAS WITHIN TWO WEEKS OF ROUGH GRADING.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: TJS
CHKD. BY: SAW | DWG. NAME: EC-HNSN02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

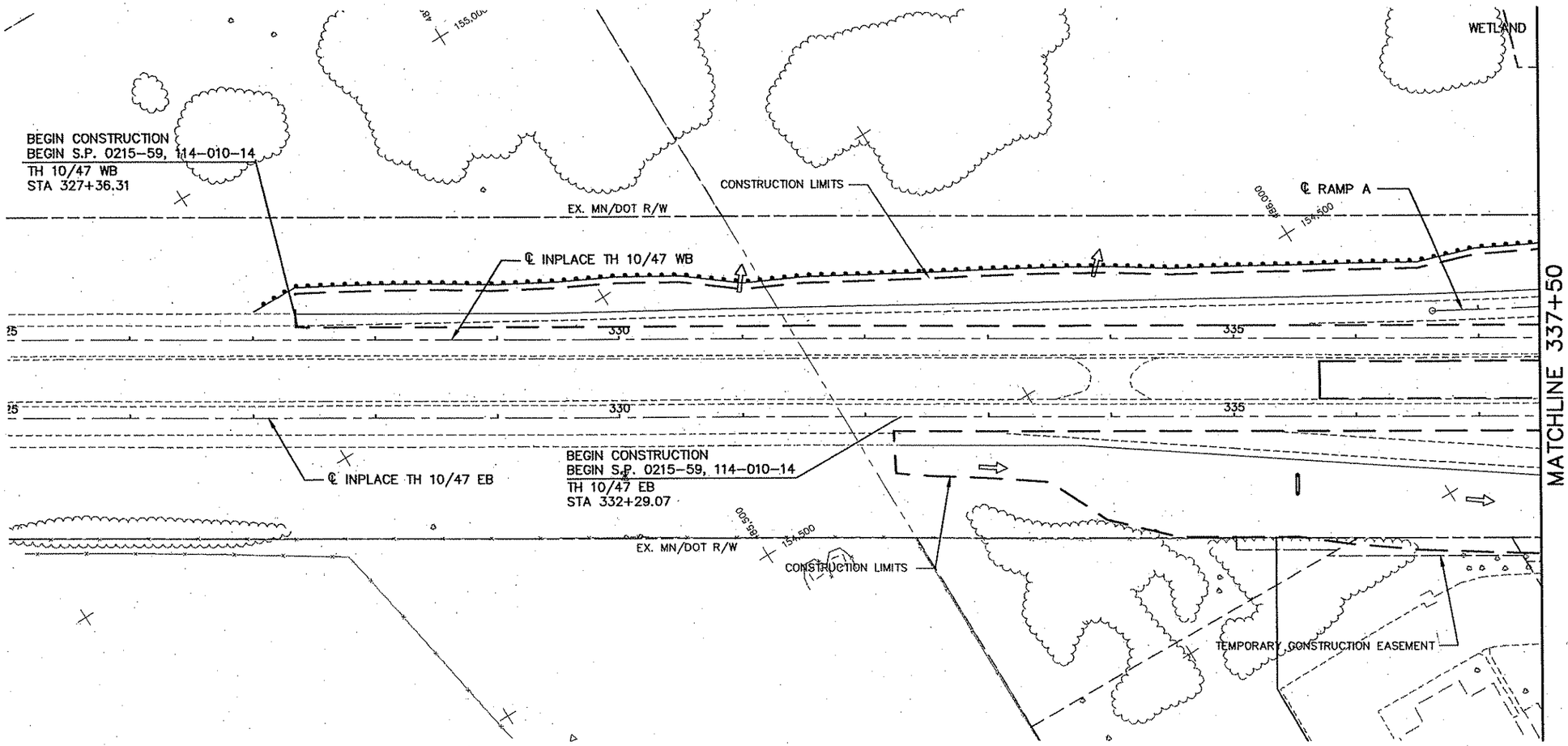
EROSION CONTROL PLANS

HANSON BOULEVARD
STATION 23+00.00 TO STATION 34+34.41

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 256 / 681

PLOT DATE: Jan 17 10:06am DISK: FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-EC-



LEGEND

- 5000 STRUCTURE NUMBER
- ■ PROPOSED CATCH BASIN
- □ INPLACE CATCH BASIN
- ● PROPOSED MANHOLE
- ○ INPLACE MANHOLE
- PROPOSED APRON
- ▷ INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INPLACE CULVERT
- MACHINE SLICED SILT FENCE
- HEAVY DUTY SILT FENCE
- Ⓡ RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- Ⓢ SOD APRON INLET OR OUTLET
- FILTER LOG TYPE STRAW BIOROLL
- SURFACE FLOW ARROW
- STORM DRAIN INLET PROTECTION
- CULVERT PROTECTION
- WETLAND BOUNDARIES

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR ½ OF SILT FENCE HEIGHT.

4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

5.) IF SILT DEPOSITS IN MNDOT RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

6.) UNLESS MORE STRINGENT CRITERIA IS PROVIDED ELSEWHERE IN CONTRACT DOCUMENTS, STABILIZING VEGETATION SHALL BE PROVIDED FOR DISTURBED AREAS WITHIN TWO WEEKS OF ROUGH GRADING.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: TJS
CHKED. BY: SAW | DWG. NAME: EC-HWY01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

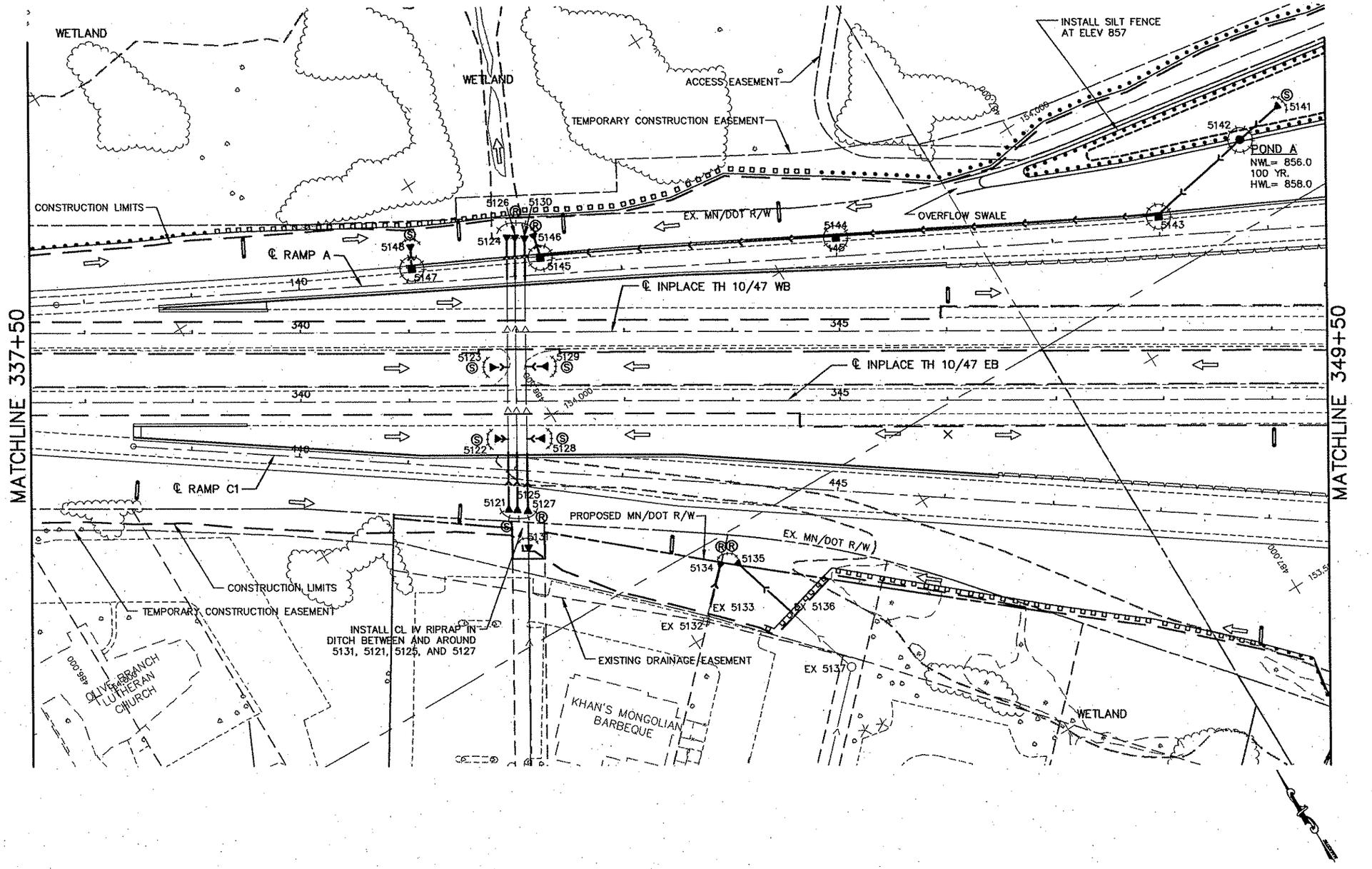
EROSION CONTROL PLANS

HIGHWAY 10/47 AND RAMPS A-D
STATION 327+36.31 TO STATION 337+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 257 / 681

PLOT DATE: Jan 07 10:05am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-EC-F.dwg



LEGEND

- 5000 STRUCTURE NUMBER
- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INPLACE CULVERT
- MACHINE SLICED SILT FENCE
- HEAVY DUTY SILT FENCE
- ® RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- Ⓢ SOD APRON INLET OR OUTLET
- FILTER LOG TYPE STRAW BIOROLL
- SURFACE FLOW ARROW
- STORM DRAIN INLET PROTECTION
- CULVERT PROTECTION
- WETLAND BOUNDARIES

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR ⅓ OF SILT FENCE HEIGHT.

4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

5.) IF SILT DEPOSITS IN MNDOT RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

6.) UNLESS MORE STRINGENT CRITERIA IS PROVIDED ELSEWHERE IN CONTRACT DOCUMENTS, STABILIZING VEGETATION SHALL BE PROVIDED FOR DISTURBED AREAS WITHIN TWO WEEKS OF ROUGH GRADING.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: TJS
CHKED. BY: SAW | DWG. NAME: EC-HWY02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl F. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

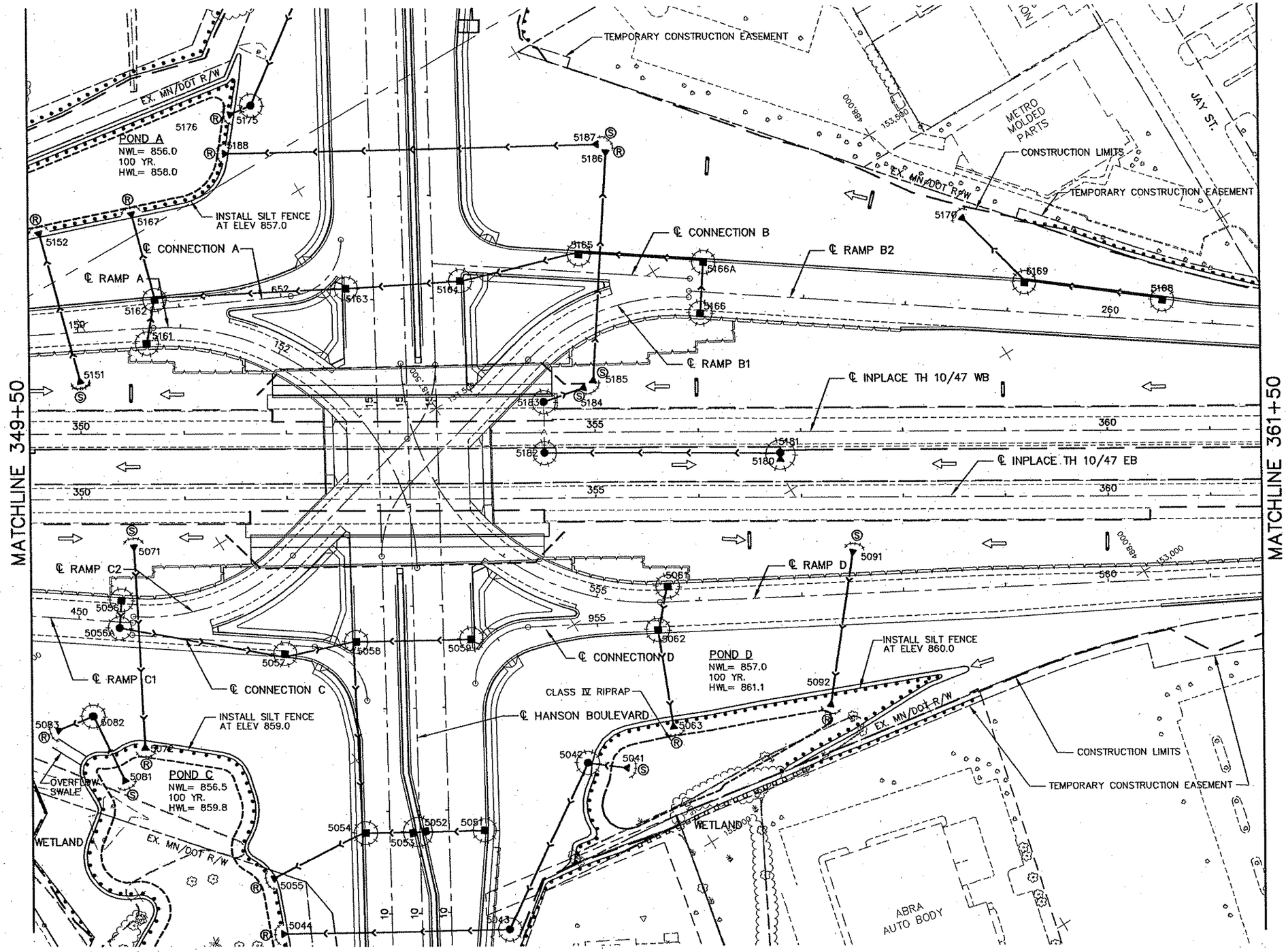
EROSION CONTROL PLANS

HIGHWAY 10/47 AND RAMPS A-D
STATION 337+50.00 TO STATION 349+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 258 / 681

PLOT DATE: Jan 07 10:05am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-EC-.dwg



LEGEND

- 5000 STRUCTURE NUMBER
- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INPLACE CULVERT
- MACHINE SLICED SILT FENCE
- HEAVY DUTY SILT FENCE
- Ⓡ RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- Ⓢ SOD APRON INLET OR OUTLET
- FILTER LOG TYPE STRAW BIOROLL
- SURFACE FLOW ARROW
- STORM DRAIN INLET PROTECTION
- CULVERT PROTECTION
- WETLAND BOUNDARIES

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR ½ OF SILT FENCE HEIGHT.

4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

5.) IF SILT DEPOSITS IN MNDOT RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

6.) UNLESS MORE STRINGENT CRITERIA IS PROVIDED ELSEWHERE IN CONTRACT DOCUMENTS, STABILIZING VEGETATION SHALL BE PROVIDED FOR DISTURBED AREAS WITHIN TWO WEEKS OF ROUGH GRADING.

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: TJS
CHKED. BY: SAW | DWG. NAME: EC-HWY03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

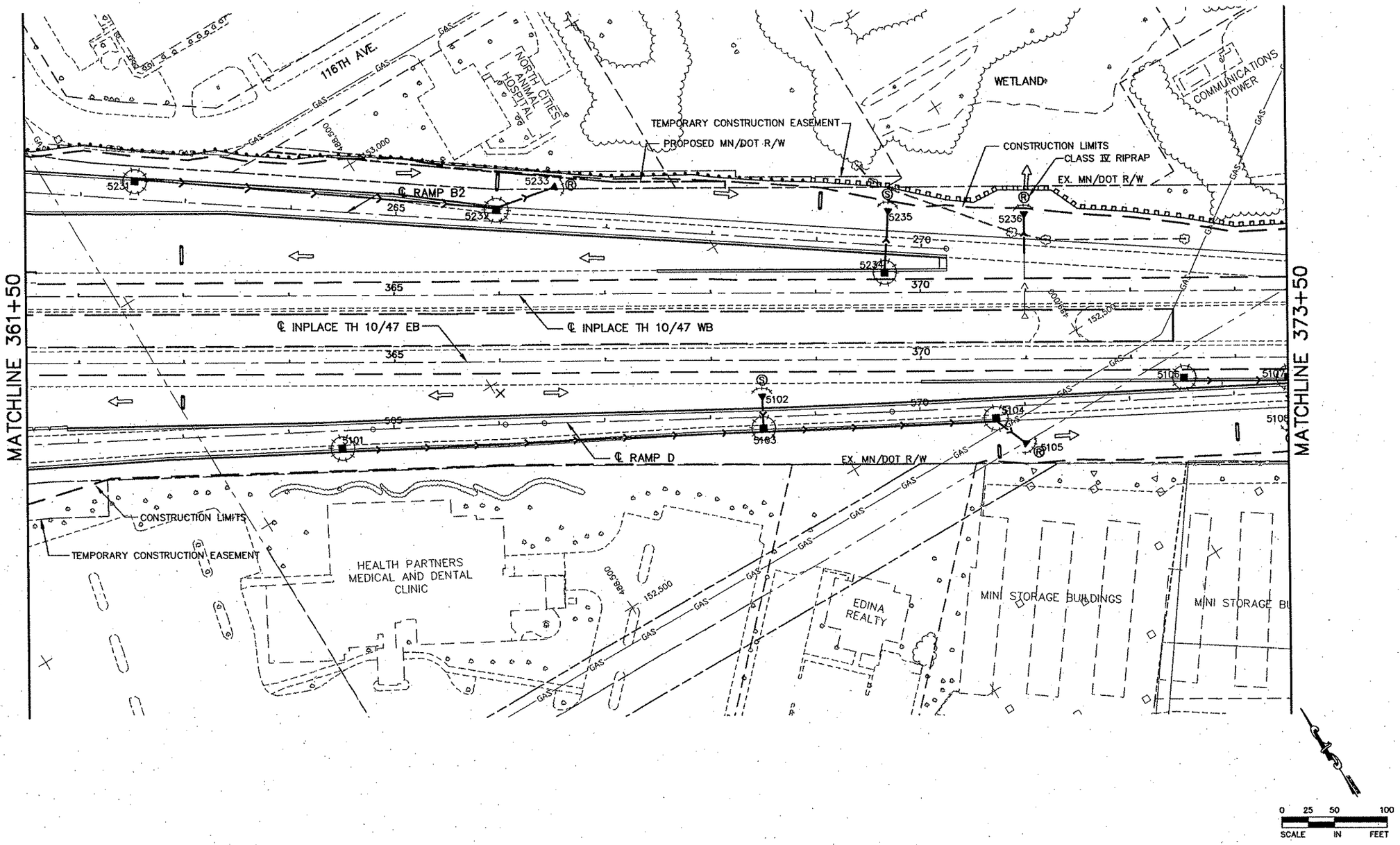
EROSION CONTROL PLANS

HIGHWAY 10/47 AND RAMPS A-D
STATION 349+50.00 TO STATION 361+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 259 / 681

PLOT DATE: Jan 17 10:05am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-EC-HWY03.dwg



LEGEND

- 5000 STRUCTURE NUMBER
- ■ PROPOSED CATCH BASIN
- □ INPLACE CATCH BASIN
- ● PROPOSED MANHOLE
- ○ INPLACE MANHOLE
- ▶ PROPOSED APRON
- ▷ INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INPLACE CULVERT
- MACHINE SLICED SILT FENCE
- HEAVY DUTY SILT FENCE
- Ⓡ RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- Ⓢ SOD APRON INLET OR OUTLET
- FILTER LOG TYPE STRAW BIOROLL
- SURFACE FLOW ARROW
- STORM DRAIN INLET PROTECTION
- CULVERT PROTECTION
- WETLAND BOUNDARIES

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR ½ OF SILT FENCE HEIGHT.

4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

5.) IF SILT DEPOSITS IN MNDOT RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

6.) UNLESS MORE STRINGENT CRITERIA IS PROVIDED ELSEWHERE IN CONTRACT DOCUMENTS, STABILIZING VEGETATION SHALL BE PROVIDED FOR DISTURBED AREAS WITHIN TWO WEEKS OF ROUGH GRADING.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: TJS
CHKED. BY: SAW | DWG. NAME: EC-HWY04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

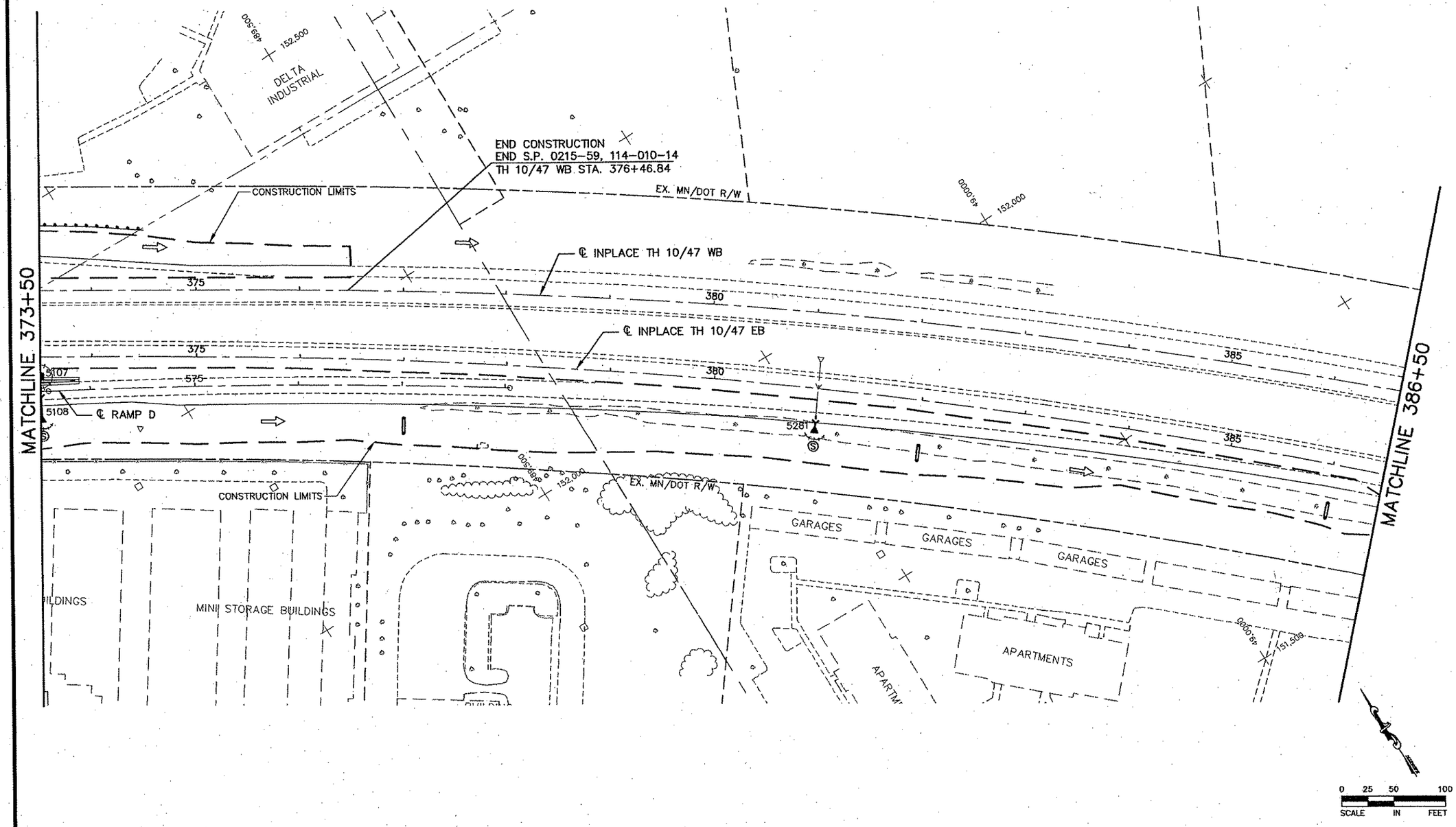
EROSION CONTROL PLANS

HIGHWAY 10/47 AND RAMPS A-D
STATION 361+50.00 TO STATION 373+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 260 / 681

PLOT DATE: Jan 7 10:05am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-EC-.dwg



LEGEND

- 5000 STRUCTURE NUMBER
- ■ PROPOSED CATCH BASIN
- □ INPLACE CATCH BASIN
- ● PROPOSED MANHOLE
- ○ INPLACE MANHOLE
- ▶ PROPOSED APRON
- ▷ INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INPLACE CULVERT
- MACHINE SLICED SILT FENCE
- HEAVY DUTY SILT FENCE
- Ⓡ RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- Ⓢ SOD APRON INLET OR OUTLET
- FILTER LOG TYPE STRAW BIOROLL
- SURFACE FLOW ARROW
- STORM DRAIN INLET PROTECTION
- CULVERT PROTECTION
- WETLAND BOUNDARIES

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8". OR ½ OF SILT FENCE HEIGHT.

4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

5.) IF SILT DEPOSITS IN MNDOT RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

6.) UNLESS MORE STRINGENT CRITERIA IS PROVIDED ELSEWHERE IN CONTRACT DOCUMENTS, STABILIZING VEGETATION SHALL BE PROVIDED FOR DISTURBED AREAS WITHIN TWO WEEKS OF ROUGH GRADING.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: TJS
CHKED. BY: SAW | DWG. NAME: EC-HWY05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl L. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

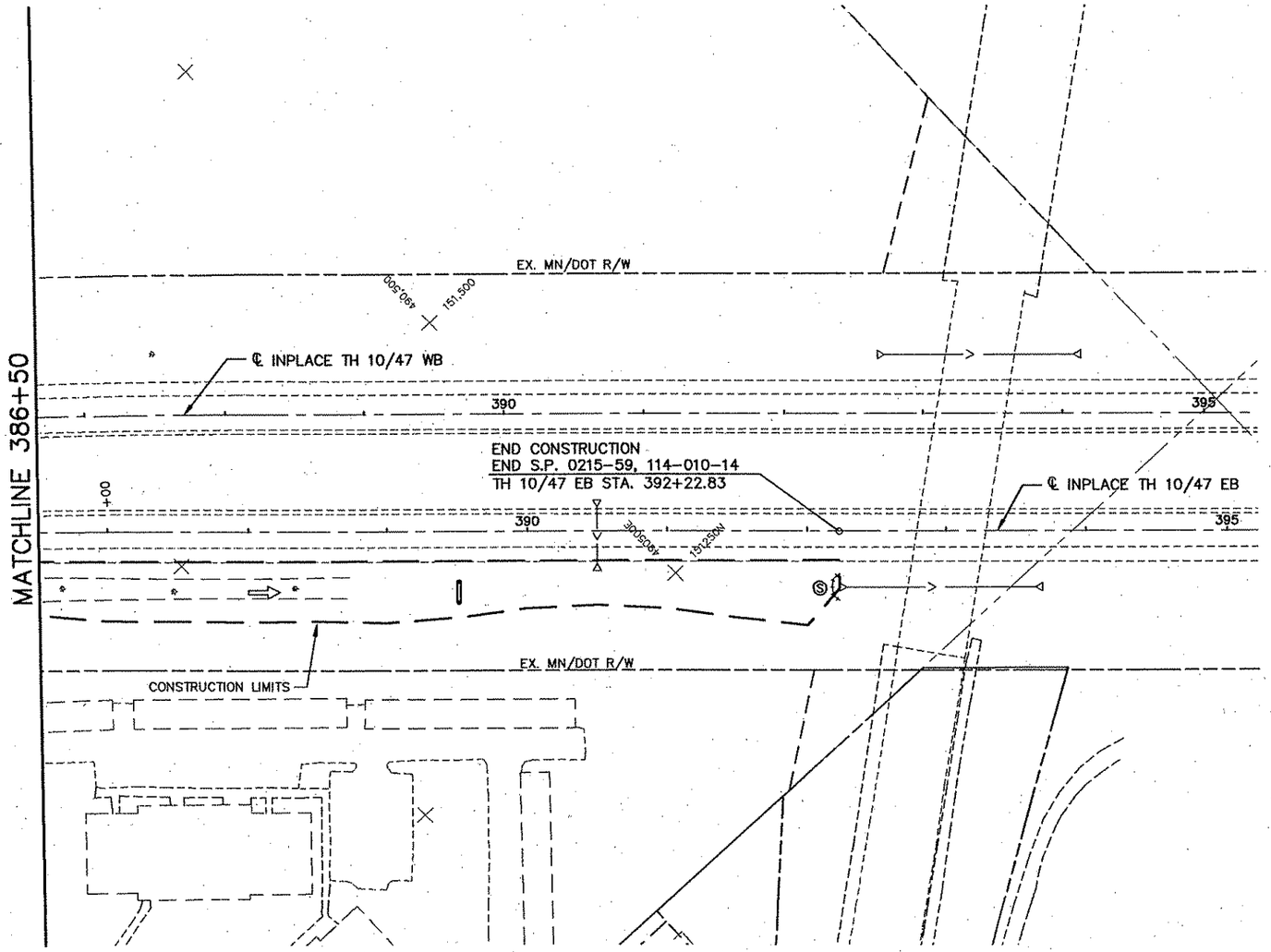
EROSION CONTROL PLANS

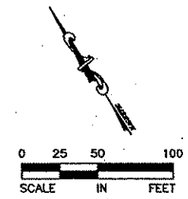
HIGHWAY 10/47 AND RAMPS A-D
STATION 373+50.00 TO STATION 386+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 261 / 681

PLOT DATE: Jan 8 07 10:05am DISK FILE NAME: (16.1) R:\33689\33889042\PLAN-SHT\PRD-CONST\042-EC-1.dwg





LEGEND

- 5000 STRUCTURE NUMBER
- ■ PROPOSED CATCH BASIN
- □ INPLACE CATCH BASIN
- ● PROPOSED MANHOLE
- ○ INPLACE MANHOLE
- ▶— PROPOSED APRON
- ▷ INPLACE APRON
- —→— PROPOSED STORM SEWER
- —>— INPLACE STORM SEWER
- ▷—>—◁ INPLACE CULVERT
- MACHINE SLICED SILT FENCE
- HEAVY DUTY SILT FENCE
- Ⓡ RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- Ⓢ SOD APRON INLET OR OUTLET
- FILTER LOG TYPE STRAW BIOROLL
- SURFACE FLOW ARROW
- STORM DRAIN INLET PROTECTION
- CULVERT PROTECTION
- — — — WETLAND BOUNDARIES

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR ½ OF SILT FENCE HEIGHT.

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6.) UNLESS MORE STRINGENT CRITERIA IS PROVIDED ELSEWHERE IN CONTRACT DOCUMENTS, STABILIZING VEGETATION SHALL BE PROVIDED FOR DISTURBED AREAS WITHIN TWO WEEKS OF ROUGH GRADING.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: TJS
CHKED. BY: SAW | DWG. NAME: EC-HWY06
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

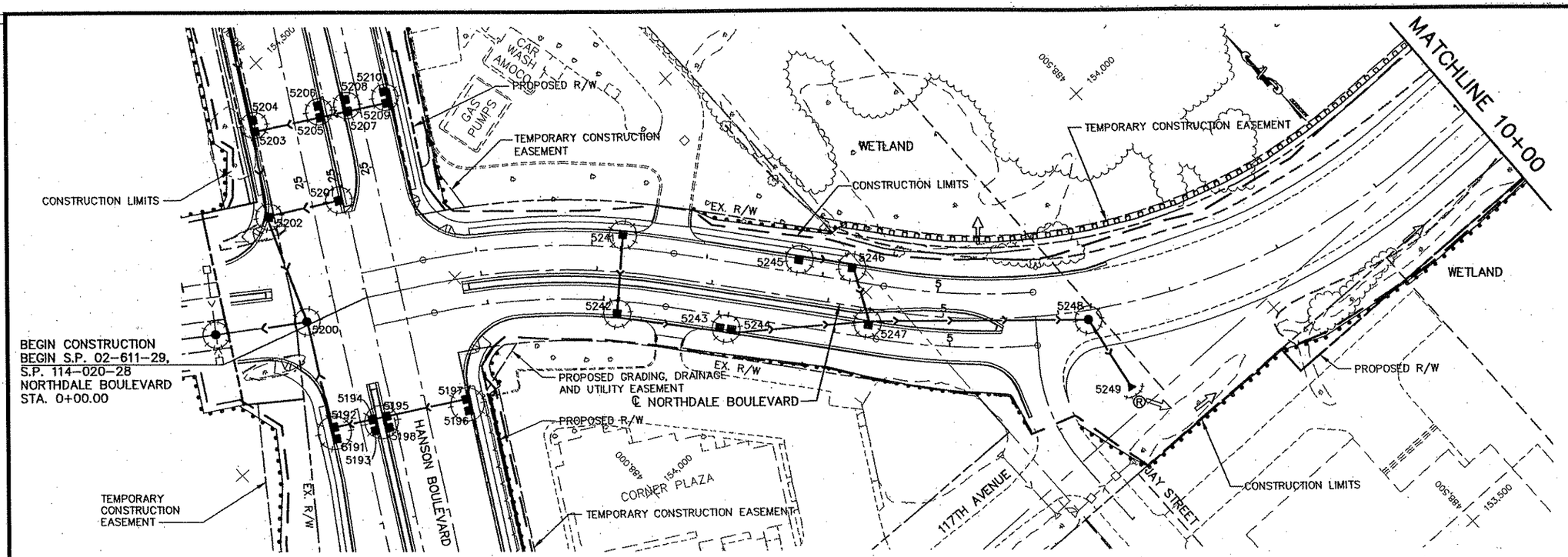
EROSION CONTROL PLANS

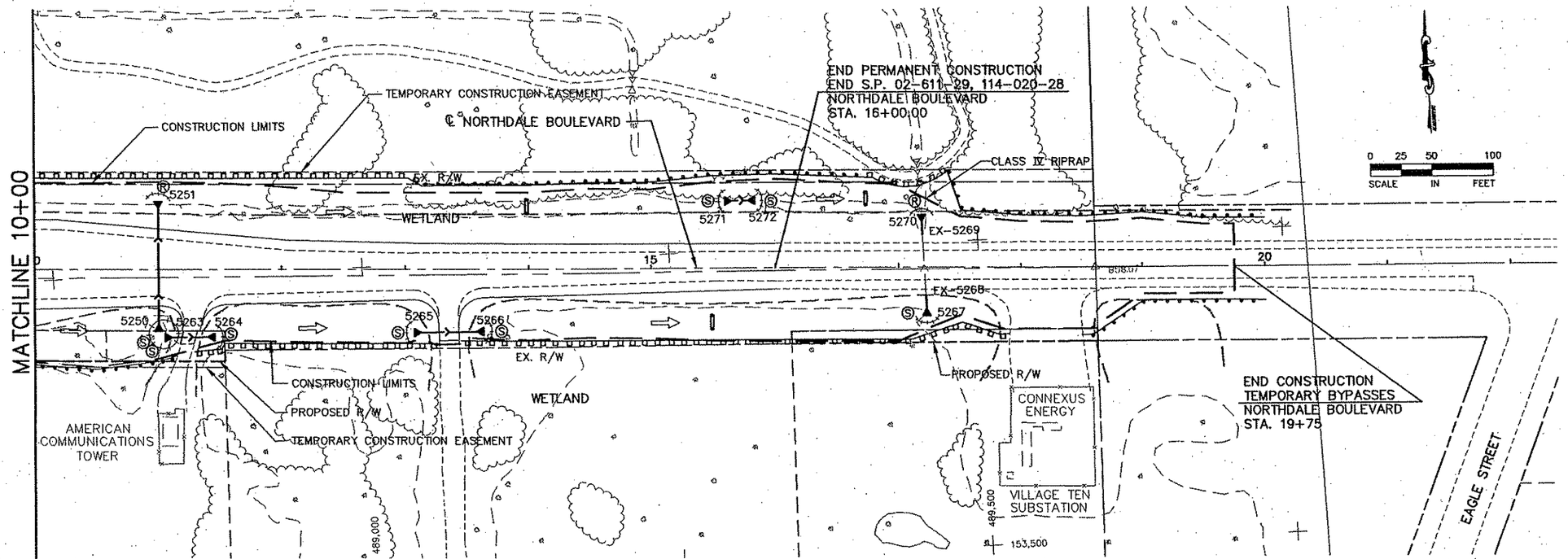
HIGHWAY 10/47 AND RAMPS A-D
STATION 386+50.00 TO STATION 392+22.83

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 262 / 681

PLOT DATE: Jan 7 10:05am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-EC-





LEGEND

- 5000 STRUCTURE NUMBER
- ■ PROPOSED CATCH BASIN
- □ INPLACE CATCH BASIN
- ● PROPOSED MANHOLE
- ○ INPLACE MANHOLE
- ▶— PROPOSED APRON
- ▷ INPLACE APRON
- —→— PROPOSED STORM SEWER
- —>— INPLACE STORM SEWER
- ▷—>—◁ INPLACE CULVERT
- MACHINE SLICED SILT FENCE
- HEAVY DUTY SILT FENCE
- Ⓡ RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- Ⓢ SOD APRON INLET OR OUTLET
- FILTER LOG TYPE STRAW BIOROLL
- ⇨ SURFACE FLOW ARROW
- STORM DRAIN INLET PROTECTION
- CULVERT PROTECTION
- — — — WETLAND BOUNDARIES

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR ⅓ OF SILT FENCE HEIGHT.

4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

5.) IF SILT DEPOSITS IN MNDOT RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

6.) UNLESS MORE STRINGENT CRITERIA IS PROVIDED ELSEWHERE IN CONTRACT DOCUMENTS, STABILIZING VEGETATION SHALL BE PROVIDED FOR DISTURBED AREAS WITHIN TWO WEEKS OF ROUGH GRADING.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: TJS
CHKED. BY: SAW | DWG. NAME: EC-NNDALE01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

EROSION CONTROL PLANS

NORTHDALE BOULEVARD
STATION 0+00.00 TO STATION 19+75.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 263 / 681

PLOT DATE: Jan 07 10:06am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-EC-101.dwg

Xref'd Drawings
rl-keel-sig
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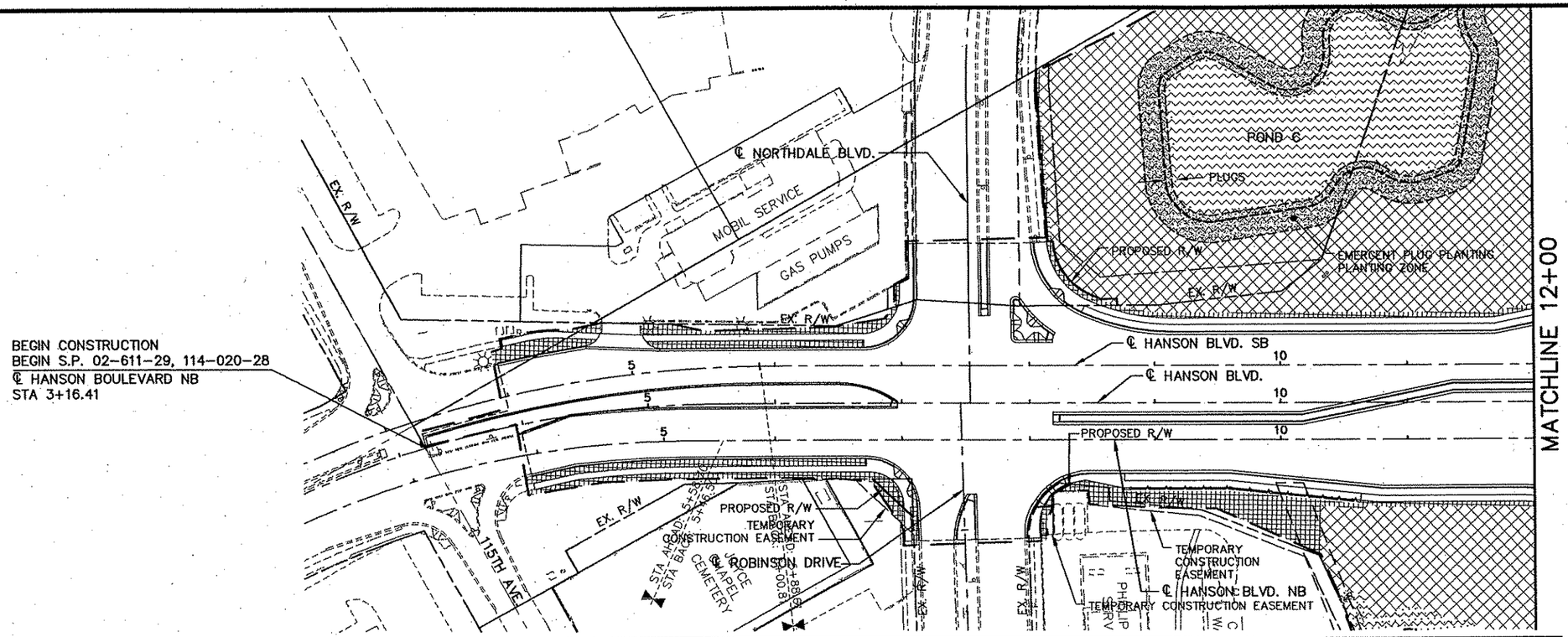
4SN-TURF
4SN-CON-UM
12TENOTES
4SN-PCO
4D-ESM
4SN-EUT
4SN-ETP
4SN-A
3F-DW
4SN-ES
1x34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889--042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TE-HNSN01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

TURF ESTABLISHMENT

HANSON BOULEVARD
STATION 3+16.41 TO STATION 23+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 264 / 681

PLOT DATE: Jan 17 10:18am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-TE-HNSN01.dwg

Xref'd Drawings
rl-keel-sig
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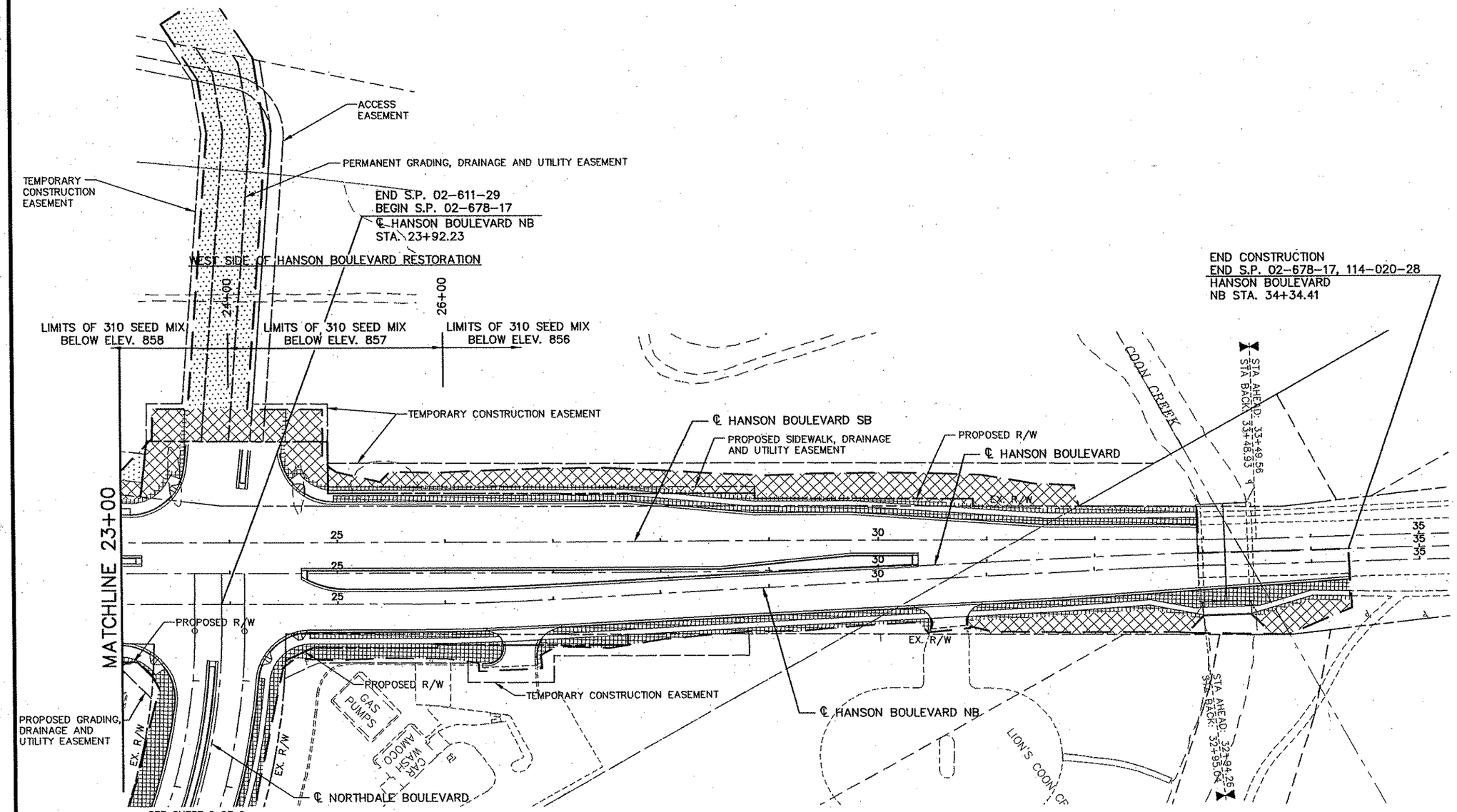
4SN-TURF
4SN-CON-UM
12TENOTES
4SN-PCD
3F-DW
4SN-ES
2x34bdr



LEGEND

- SOD – TYPE SALT RESISTANT
- SEED MIXTURE 350
- SEED MIXTURE 310
- TYPE 9 AGGREGATE MULCH MN/DOT 2575
- SHOULDER TACKING (3' WIDE TYPICAL)
- EROSION CONTROL BLANKET, CATEGORY 3
- PLUGS FROM NWL TO 1.5' BELOW NWL

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TE-HNSN02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TURF ESTABLISHMENT
HANSON BOULEVARD
STATION 23+00.00 TO STATION 34+34.41

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 265 / 681

PLOT DATE: Jan 7 10:18am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-TE-I

Xref'd Drawings
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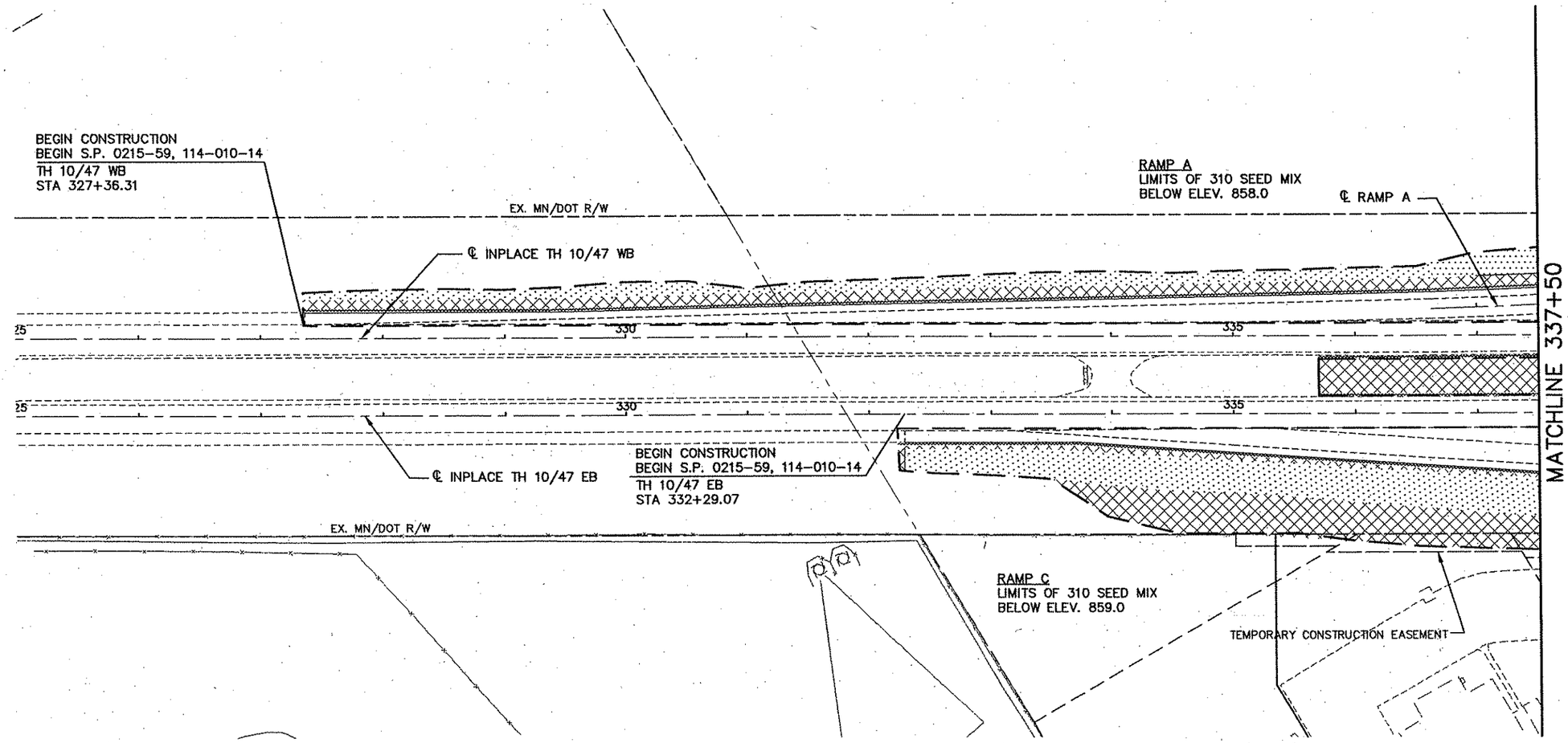
HNSN-TURF
042TENOTES
HNSN-CON-LM
HNSN-PCD
PRD-ESM
HNSN-EUT
HNSN-[illegible]
HNSN
REF-[illegible]
HNSN
22x34bar



LEGEND

- SOD – TYPE SALT RESISTANT
- SEED MIXTURE 350
- SEED MIXTURE 310
- TYPE 9 AGGREGATE MULCH MN/DOT 2575
- SHOULDER TACKING (3' WIDE TYPICAL)
- EROSION CONTROL BLANKET, CATEGORY 3
- PLUGS FROM NWL TO 1.5' BELOW NWL

0 25 50 100
SCALE IN FEET

3 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TE-HWY01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

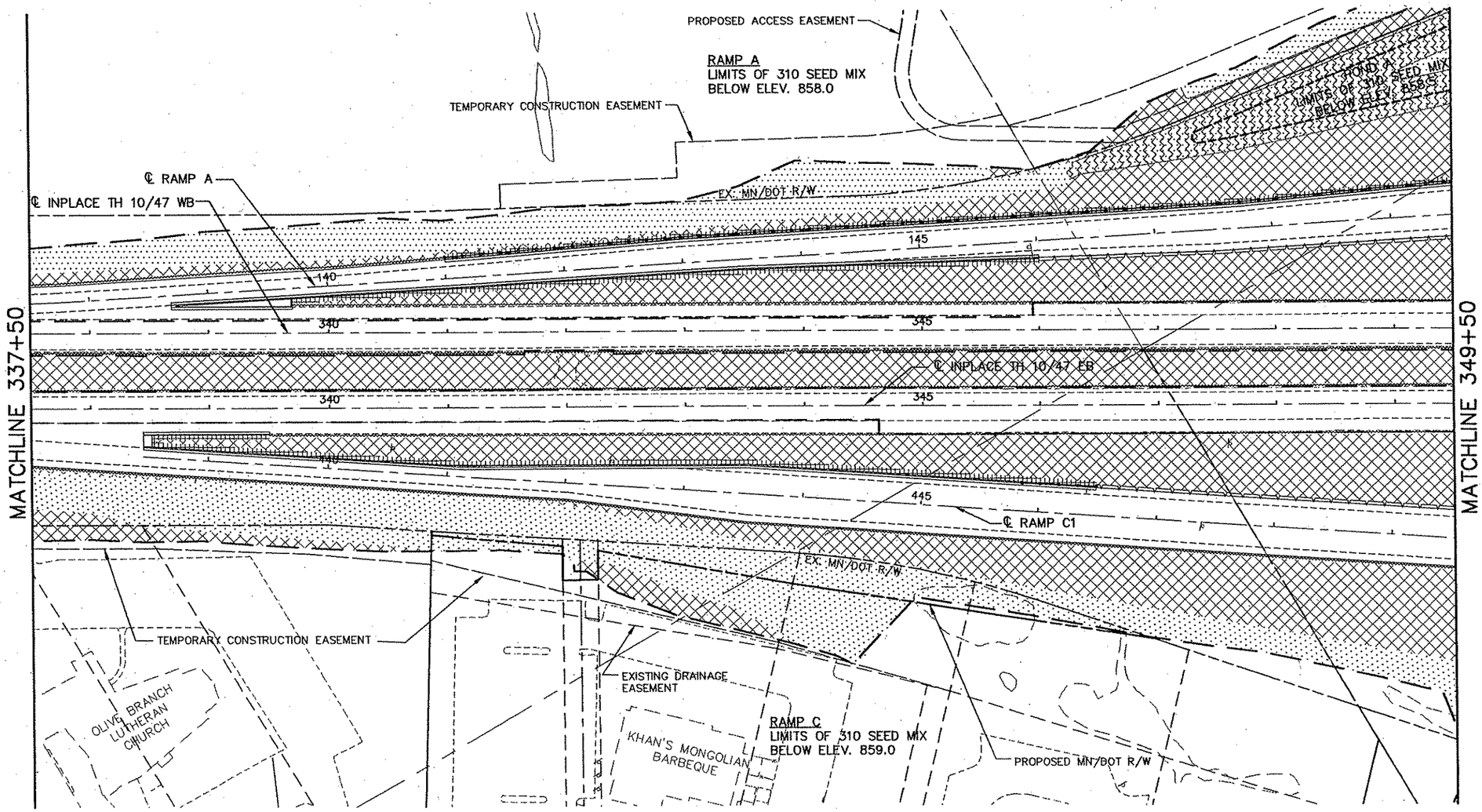
TURF ESTABLISHMENT

HIGHWAY 10/47 AND RAMPS A-D
STATION 327+36.31 TO STATION 337+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 266 / 681

PLOT DATE: Jan 7 10:17am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-TE-



LEGEND

- SOD – TYPE SALT RESISTANT
- SEED MIXTURE 350
- SEED MIXTURE 310
- TYPE 9 AGGREGATE MULCH MN/DOT 2575
- SHOULDER TACKING (3' WIDE TYPICAL)
- EROSION CONTROL BLANKET, CATEGORY 3
- PLUGS FROM NWL TO 1.5' BELOW NWL

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TE–HWY02
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

TURF ESTABLISHMENT

HIGHWAY 10/47 AND RAMPS A–D
STATION 337+50.00 TO STATION 349+50.00

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 267 / 681

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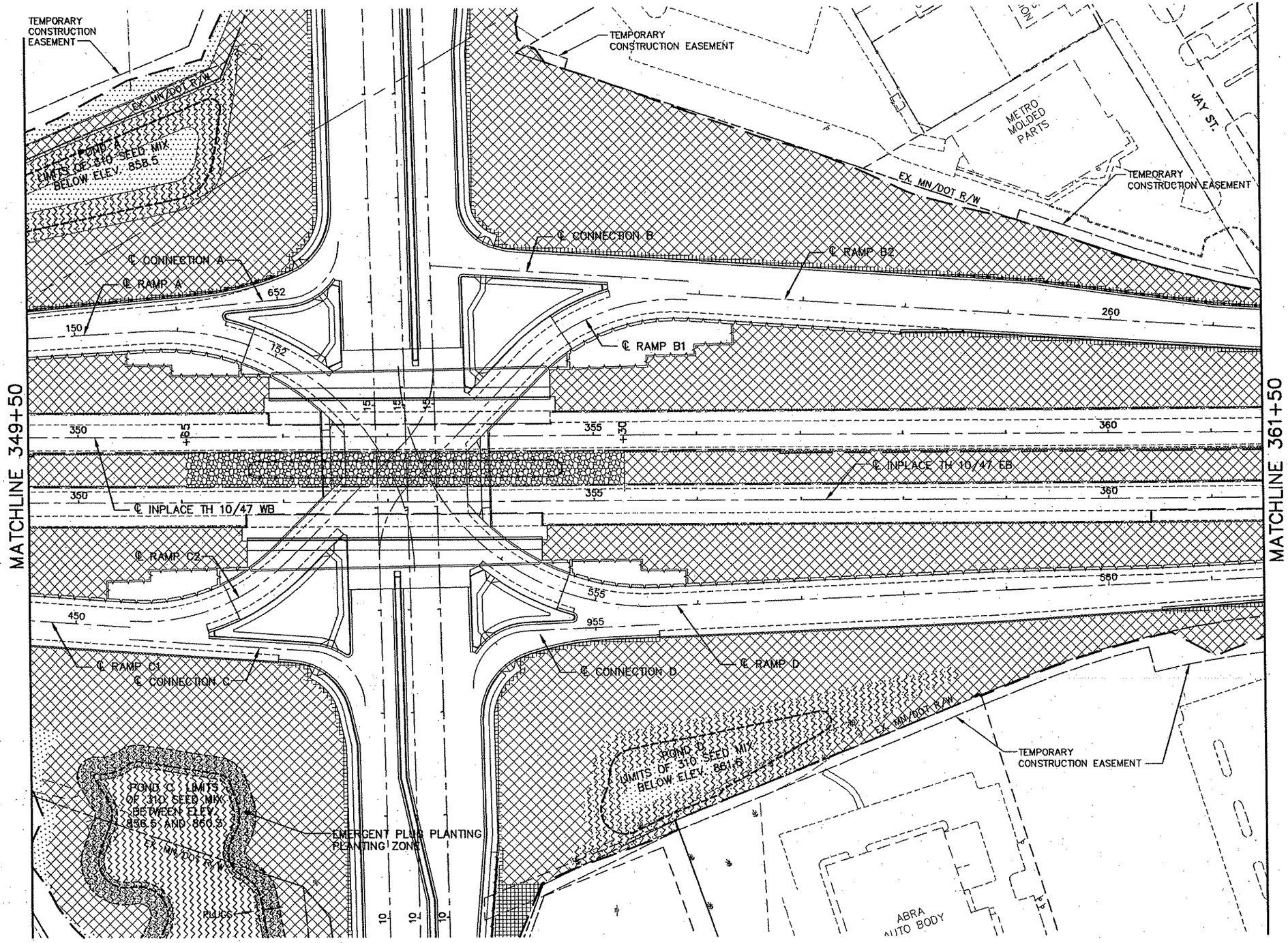


LEGEND

- SOD – TYPE SALT RESISTANT
- SEED MIXTURE 350
- SEED MIXTURE 310
- TYPE 9 AGGREGATE MULCH MN/DOT 2575
- SHOULDER TACKING (3' WIDE TYPICAL)
- EROSION CONTROL BLANKET, CATEGORY 3
- PLUGS FROM NWL TO 1.5' BELOW NWL

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TE-HWY03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

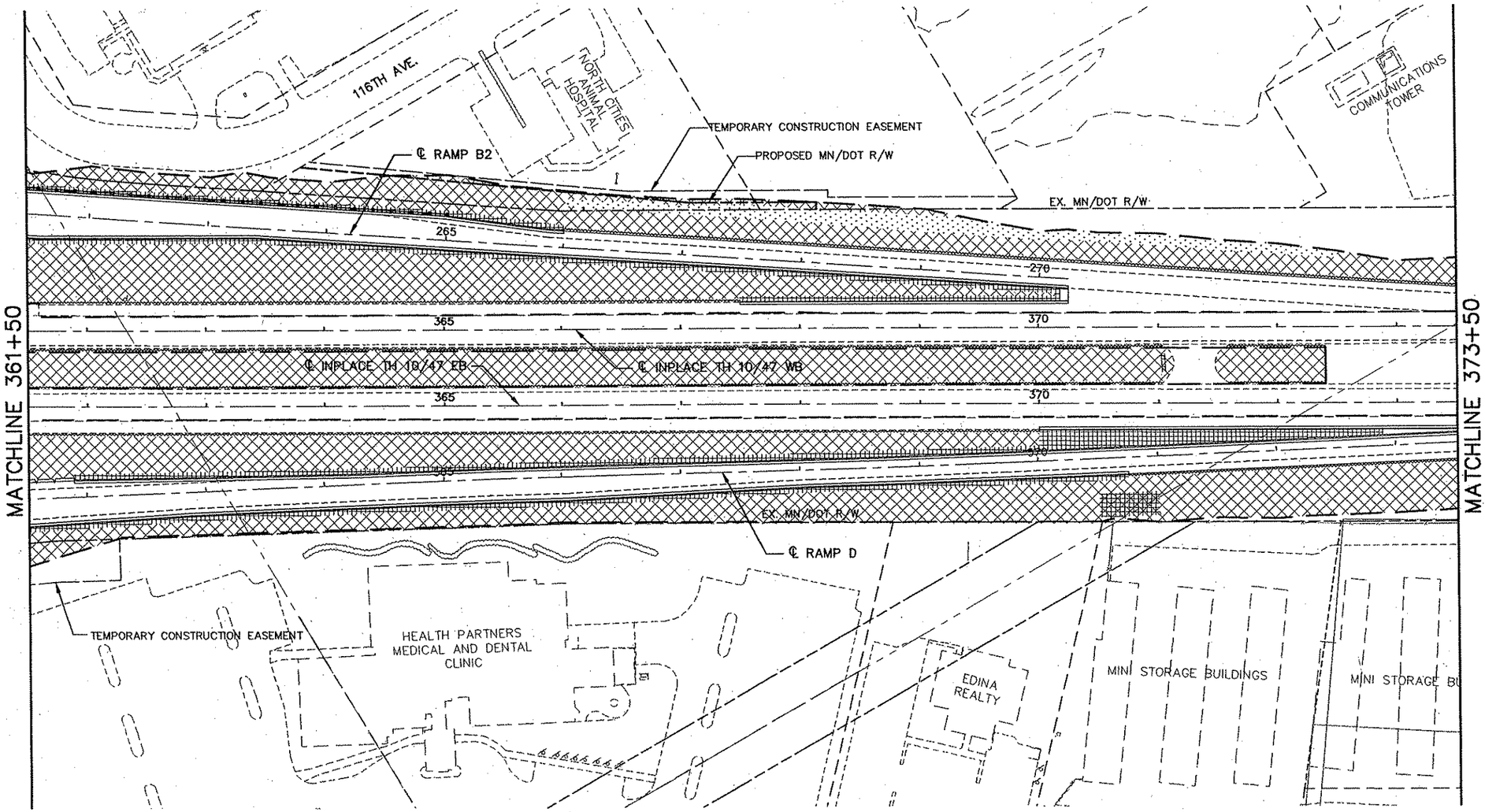
TURF ESTABLISHMENT

HIGHWAY 10/47 AND RAMPS A–D
STATION 349+50.00 TO STATION 361+50.00

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 268 / 681

PLOT DATE: Jan 17 10:17am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\RRD-CONST\042-TE-HWY03.dgn



LEGEND

- SOD – TYPE SALT RESISTANT
- SEED MIXTURE 350
- SEED MIXTURE 310
- TYPE 9 AGGREGATE MULCH MN/DOT 2575
- SHOULDER TACKING (3' WIDE TYPICAL)
- EROSION CONTROL BLANKET, CATEGORY 3
- PLUGS FROM NWL TO 1.5' BELOW NWL

0 25 50 100
SCALE IN FEET

6 OF 9

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TE-HWY04
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
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612.370.1375 Fax

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Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE

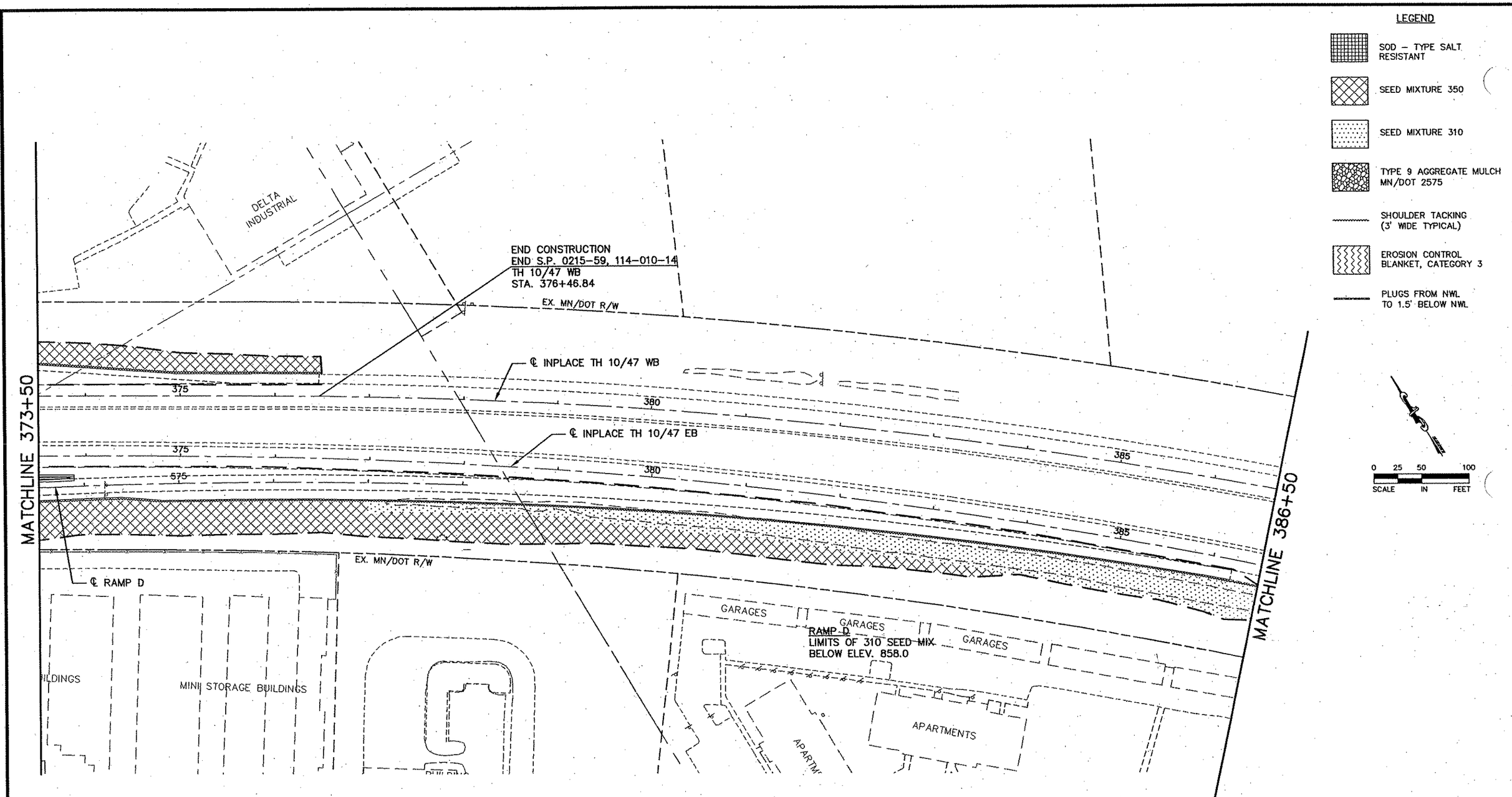
TURF ESTABLISHMENT

HIGHWAY 10/47 AND RAMPS A–D
STATION 361+50.00 TO STATION 373+50.00

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 269 / 681

PLOT DATE: Jan 17 10:17am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-TE-dwg



7 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ
DESIGN BY: SAW
CHKED. BY: SAW
DWG. NAME: TE-HWY05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TURF ESTABLISHMENT
HIGHWAY 10/47 AND RAMPS A-D
STATION 373+50.00 TO STATION 386+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 270 / 681

PLOT DATE: Jan 0 7 10:17am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-TE-

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IS UM
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ISN-
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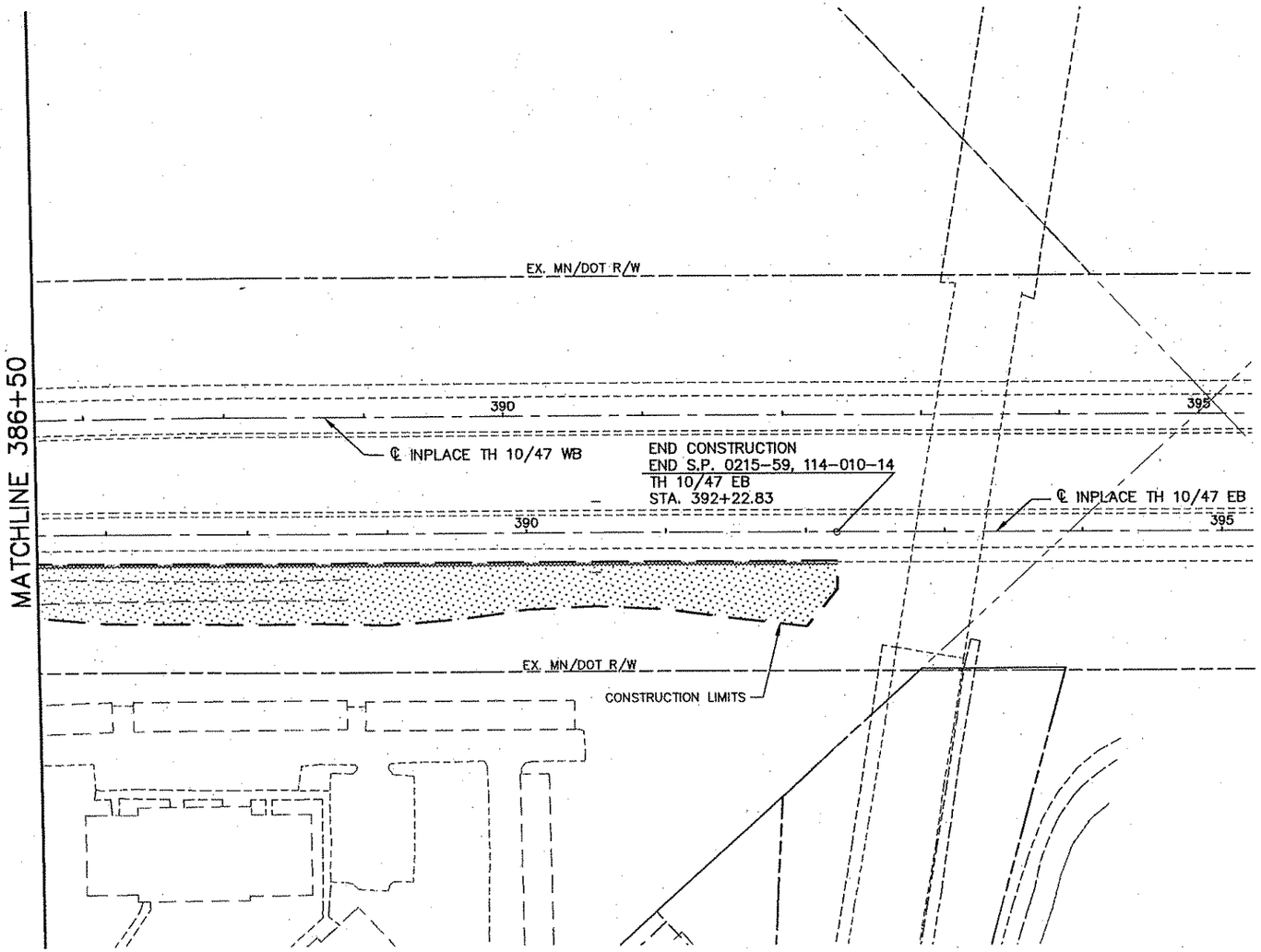

LEGEND

- SOD – TYPE SALT RESISTANT
- SEED MIXTURE 350
- SEED MIXTURE 310
- TYPE 9 AGGREGATE MULCH MN/DOT 2575
- SHOULDER TACKING (3' WIDE TYPICAL)
- EROSION CONTROL BLANKET, CATEGORY 3
- PLUGS FROM NWL TO 1.5' BELOW NWL

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TE-HWY06
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

TURF ESTABLISHMENT

HIGHWAY 10/47 AND RAMPS A-D
STATION 386+50.00 TO STATION 392+22.83

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 271 / 681

PLOT DATE: Jan 07 10:17am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-TE-[illegible].dwg

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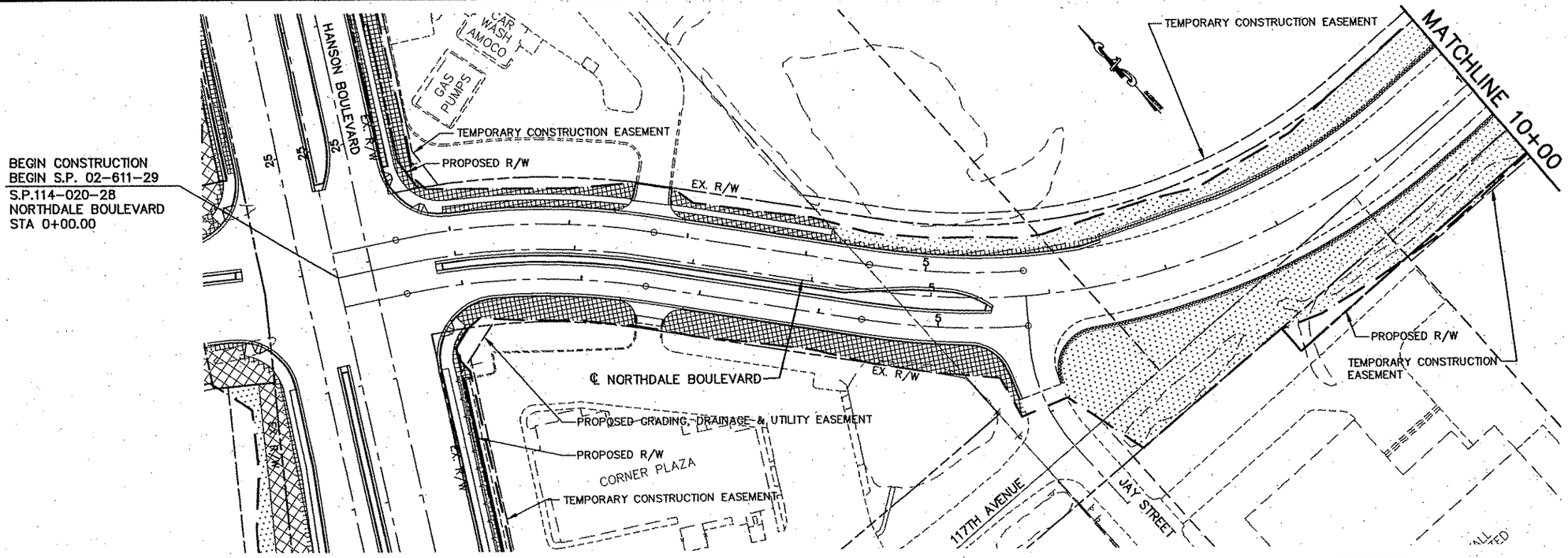
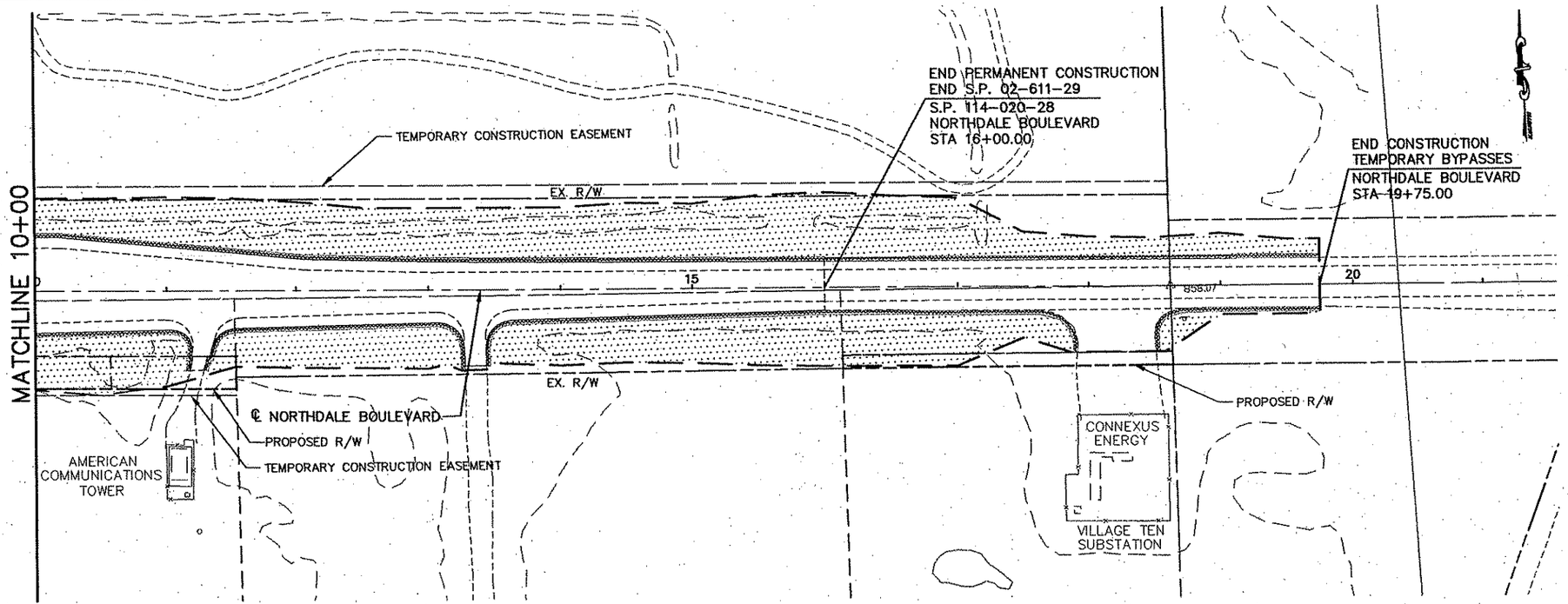
ISN-CON-LIM
2TENOTES
ISN-PCO
ID-ESM
ISN-ETO
ISN-EUT
ISN-AU
F-DWG-BDR
ISN-E
x34bd





9 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: SAW
CHKED. BY: SAW | DWG. NAME: TE-NNDALE01
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

TURF ESTABLISHMENT

NORTHDALE BOULEVARD
STATION 0+00.00 TO STATION 19+75.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

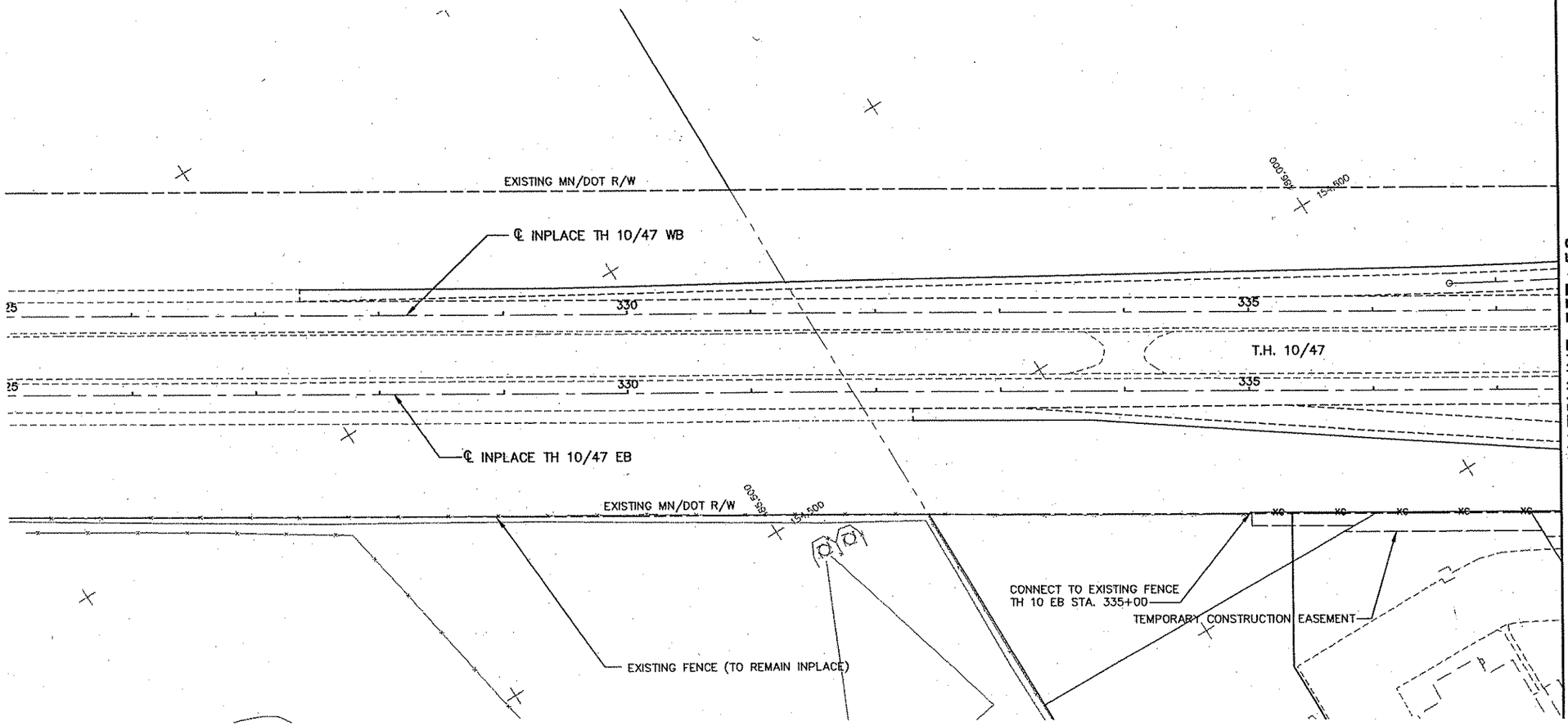
SHEET NO. 272 / 681

PLOT DATE: Jan 07 10:16am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-TE-01.dwg

Xref'd Drawings
042FENOTES
HNSN-PCO
PRO-ESM
HNSN-ETO
HNSN-ALI
REF-DWG-BD
-ESU

LEGEND

- INPLACE CHAIN LINK FENCE
- XC XC PROPOSED CHAIN LINK FENCE
- PROPOSED TRAFFIC BARRIER-PLATE BEAM GUARDRAIL



0 25 50 100
SCALE IN FEET

NOTES:

1. FENCING SHALL BE LOCATED 1.0 FT INSIDE R/W UNLESS OTHERWISE NOTED.
2. GUARDRAIL, SEE STD PLANS AND STD PLATES FOR DETAILS.
3. LENGTH OF GUARD RAIL SHOWN IS APPROXIMATE. CONTRACTOR SHALL DETERMINE EXACT LENGTH OF GUARDRAIL BASED ON DIMENSIONS OF END TREATMENT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: FE-HWY01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

FENCING & GUARDRAIL PLAN

HIGHWAY 10/47 AND RAMPS A-D
STATION 325+57.88 TO STATION 337+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 273 / 681

PLOT DATE: Jan 6 07 10:06am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-FE-

Xref'd Drawings
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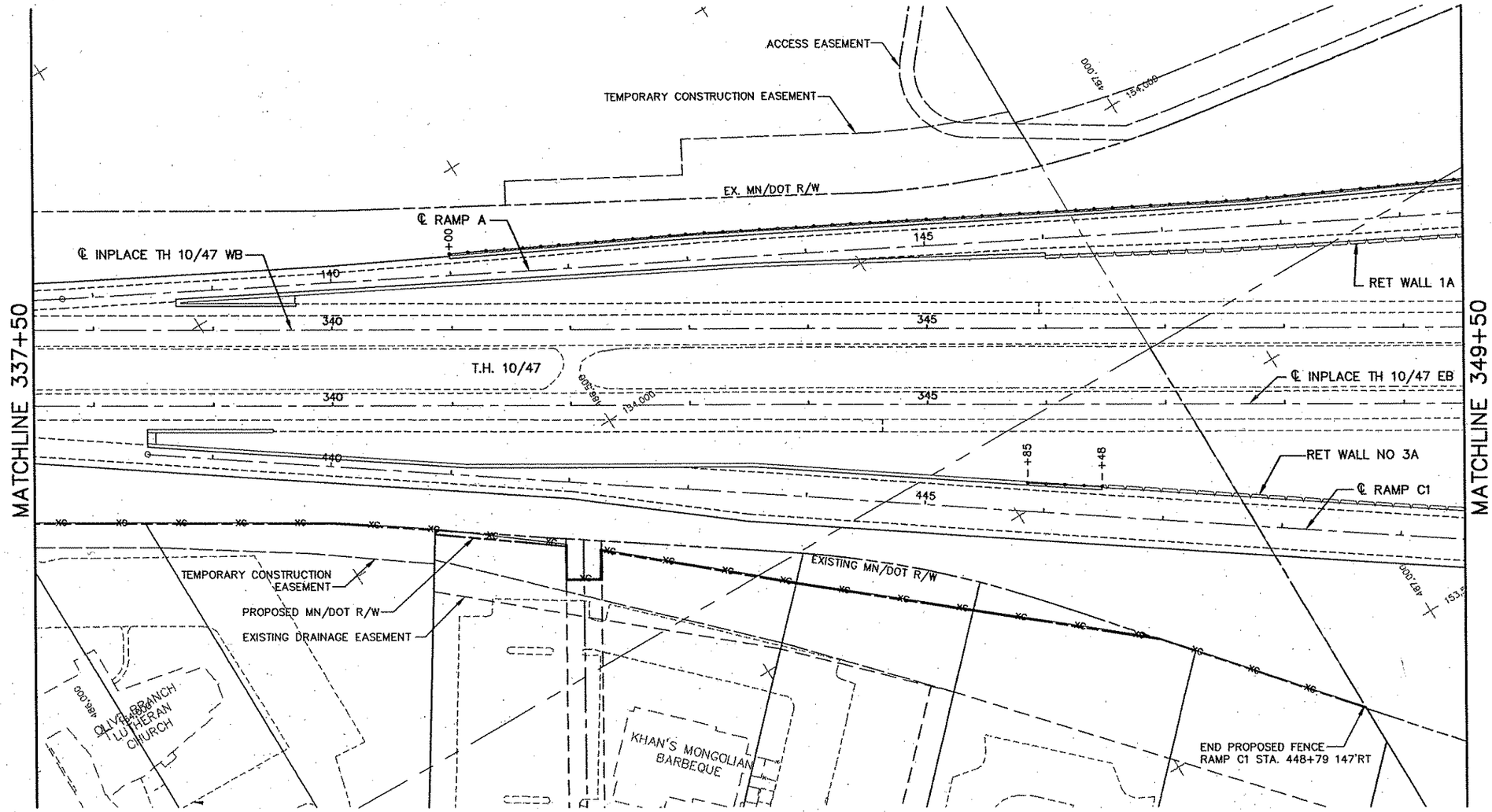

LEGEND

- INPLACE CHAIN LINK FENCE
- XC XC PROPOSED CHAIN LINK FENCE
- PROPOSED TRAFFIC BARRIER-PLATE BEAM GUARDRAIL

0 25 50 100
SCALE IN FEET

NOTES:

1. FENCING SHALL BE LOCATED 1.0 FT INSIDE R/W UNLESS OTHERWISE NOTED.
2. GUARDRAIL, SEE STD PLANS AND STD PLATES FOR DETAILS.
3. LENGTH OF GUARD RAIL SHOWN IS APPROXIMATE. CONTRACTOR SHALL DETERMINE EXACT LENGTH OF GUARDRAIL BASED ON DIMENSIONS OF END TREATMENT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: SAW | DWG. NAME: FE-HWY02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

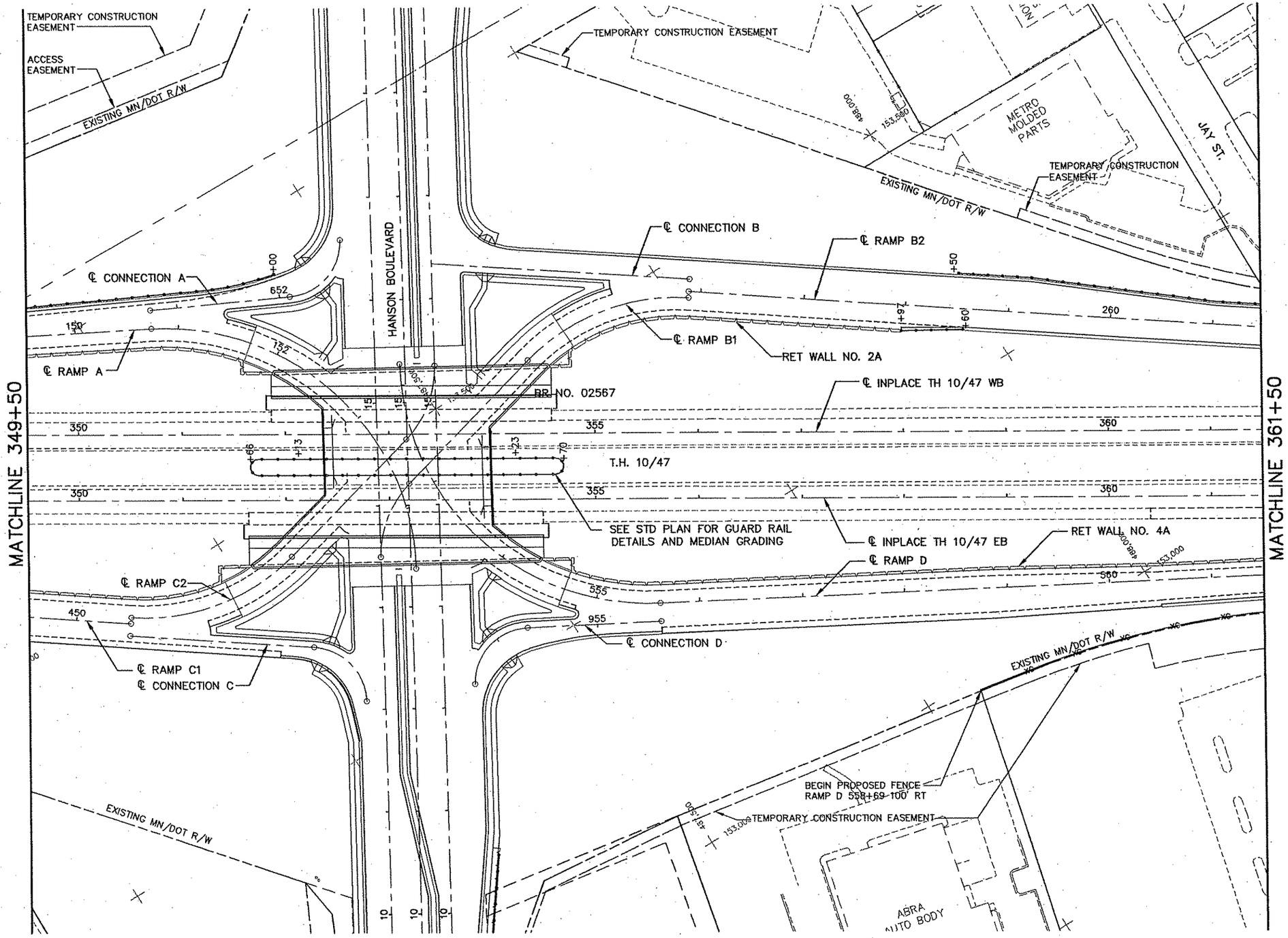
FENCING & GUARDRAIL PLAN

HIGHWAY 10/47 AND RAMPS A-D
STATION 337+50.00 TO STATION 349+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 274 / 681

PLOT DATE: Jan 7 10:06am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-FE-.dwg



LEGEND

- INPLACE CHAIN LINK FENCE
- —XC——XC— PROPOSED CHAIN LINK FENCE
- PROPOSED TRAFFIC BARRIER–PLATE BEAM GUARDRAIL

0 25 50 100
SCALE IN FEET

NOTES:

1. FENCING SHALL BE LOCATED 1.0 FT INSIDE R/W UNLESS OTHERWISE NOTED.
2. GUARDRAIL, SEE STD PLANS AND STD PLATES FOR DETAILS.
3. LENGTH OF GUARD RAIL SHOWN IS APPROXIMATE. CONTRACTOR SHALL DETERMINE EXACT LENGTH OF GUARDRAIL BASED ON DIMENSIONS OF END TREATMENT.

3 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ
DESIGN BY: JRM
CHKED. BY: SAW
DWG. NAME: FE-HWY03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
FENCING & GUARDRAIL PLAN
HIGHWAY 10/47 AND RAMPS A–D
STATION 349+50.00 TO STATION 361+50.00

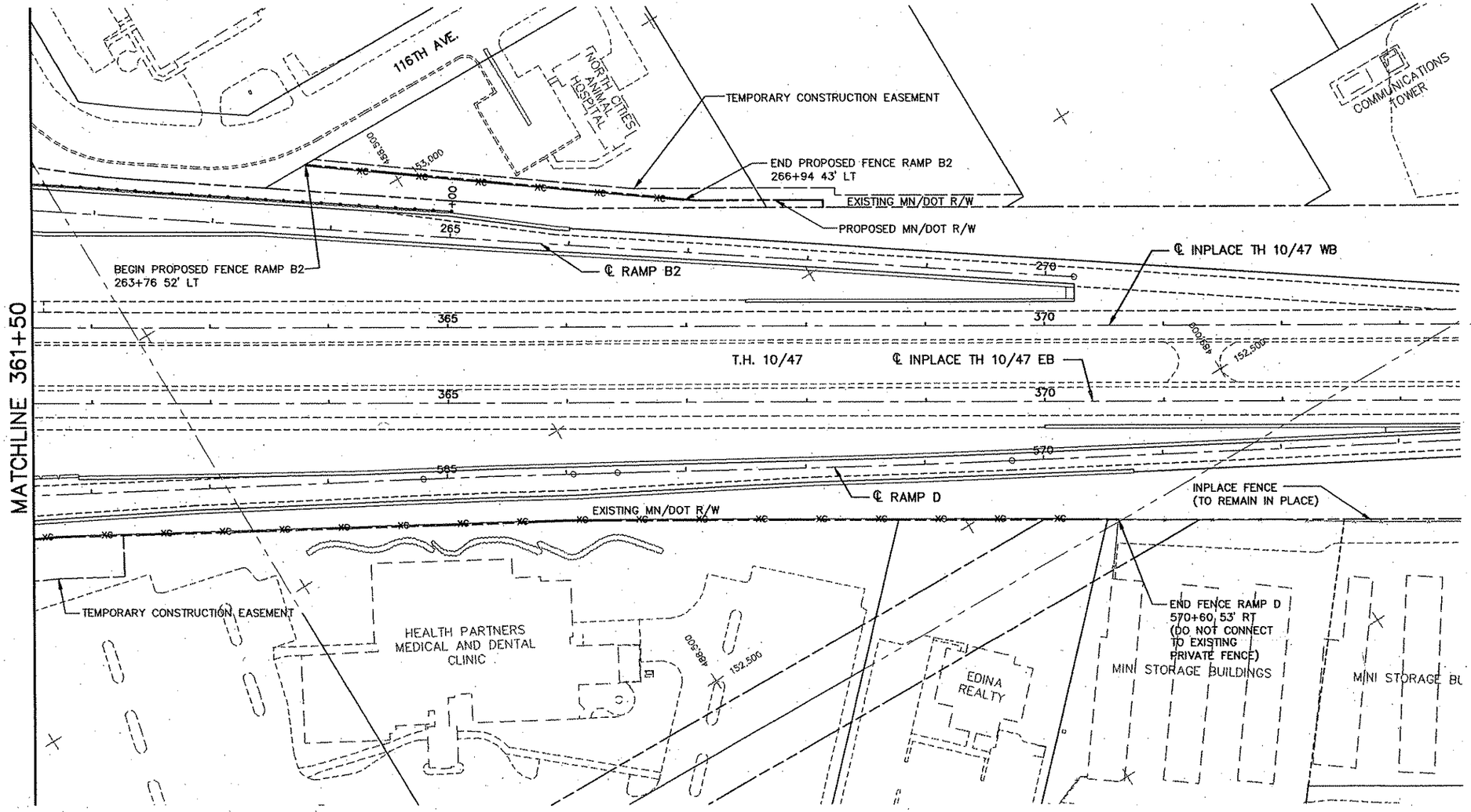
CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 275 / 681

PLOT DATE: Jan 07 10:06am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-FE-...dwg

Xref'd Drawings
042FENOTES
HNSN-PCO
PRD-ESM
HNSN-ETO
HNSN-ALI
REF-DWG-BD
HNSN-ESU
22x34bdr

PLOT DATE: Jan 17 10:06am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-FE.dwg



LEGEND

- INPLACE CHAIN LINK FENCE
- xc — xc — PROPOSED CHAIN LINK FENCE
- PROPOSED TRAFFIC BARRIER PLATE BEAM GUARDRAIL

0 25 50 100
SCALE IN FEET

NOTES:

1. FENCING SHALL BE LOCATED 1.0 FT INSIDE R/W UNLESS OTHERWISE NOTED.
2. GUARDRAIL, SEE STD PLANS AND STD PLATES FOR DETAILS.
3. LENGTH OF GUARD RAIL SHOWN IS APPROXIMATE. CONTRACTOR SHALL DETERMINE EXACT LENGTH OF GUARDRAIL BASED ON DIMENSIONS OF END TREATMENT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: ELJ	DESIGN BY: JRM
CHKED. BY: SAW	DWG. NAME: FE-HWY04
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

FENCING & GUARDRAIL PLAN

HIGHWAY 10/47 AND RAMPS A-D
STATION 361+50.00 TO STATION 373+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 276 / 681

Xref'd Drawings
rl-keel-sig
F-DWG-BDR
x34bdr

TRAFFIC CONTROL NOTES & GUIDELINES

GENERAL INFORMATION:

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MNMUTCD.
5. AN ANNUAL FALL REVIEW OF ALL TRAFFIC CONTROLS WILL BE MADE TO PREPARE FOR WINTER MAINTENANCE OF THE PROJECT. THIS MAY INCLUDE ADJUSTMENTS OR EXCHANGE OF ONE TRAFFIC CONTROL DEVICE FOR ANOTHER. READJUSTMENTS MAY AGAIN BE REQUIRED IN THE SPRING.
6. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. WHEN SIGNS ARE INSTALLED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MNMUTCD. IF THIS IS NOT POSSIBLE THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AT 5–7', AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE SIGNS SHALL BE MADE OF DIAMOND GRADE ORANGE REFLECTIVE SHEETING OR AN APPROVED SUBSTITUTE.
5. THE CONTRACTOR SHALL COORDINATE THE REMOVAL OF THE TEMPORARY SIGNS TO ASSURE THAT THE FINAL SIGNS ARE INSTALLED AS NEEDED, OR PROVIDE TEMPORARY SIGNING UNTIL THE FINAL SIGNING IS INSTALLED.

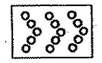
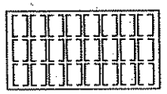
PAVEMENT MARKING:

1. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
2. PAINT, POLYMER LANE TAPE AND/OR TRPM'S ARE ACCEPTABLE TEMPORARY STRIPING ALTERNATIVES ACCORDING TO ACTUAL CONDITIONS ENCOUNTERED AS DIRECTED BY THE ENGINEER. GENERALLY, ONLY PAINT WILL BE USED BEFORE MAY 1ST OR WHEN THE OTHER MANUFACTURERS' SPECIFICATIONS CANNOT BE MET.
3. TRPM'S (TEMPORARY RAISED PAVEMENT MARKERS) SHOULD BE USED TO SUPPLEMENT THE LONG TERM (MORE THAN 7 DAYS) EDGELINES ON ALL TRANSITION AREAS WHEN THE CONDITIONS ARE WITHIN THE MANUFACTURERS' SPECIFICATIONS.

BARRIER & DELINEATION:

1. BARRIER DELINEATORS WILL HAVE A MINIMUM OF 24 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30' SPACES ON TOP OF THE BARRIER WHEN THE BARRIER IS WITHIN 10' OF TRAFFIC UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE AT ONE HALF THE SPACING AND ONE HALF THE BID PRICE.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL	DESCRIPTION
⊥	TRAFFIC CONTROL SIGN
⌊⌋	TYPE III BARRICADE =
○	DRUM–LIKE CHANNELIZER =
▨	AREA CLOSED TO TRAFFIC / WORK AREA
▭▭▭	PORTABLE PRECAST CONCRETE BARRIER (PPCB) WITH BARRIER DELINEATORS @ 30' SPACING
———	SOLID LINE PAVEMENT MARKING WITH TEMPORARY RAISED PAVEMENT MARKERS (TRPMs) @ 10' SPACING
☼ (F)	TYPE A OR B FLASHING WARNING LIGHT (SPECIFY HIGH INTENSITY)
▭	FLASHING ARROW BOARD TYPE C (4' X 8' UNLESS OTHERWISE NOTED) 
▤	PORTABLE CHANGEABLE MESSAGE SIGN 
●●●●●●	IMPACT ATTENUATOR BARRELS -- SPEED DESIGN

TRAFFIC CONTROL PLAN SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PAY ITEM TABULATION SHEET
3 – 4	TRAFFIC CONTROL SIGN TABULATION
5 – 8	TRAFFIC CONTROL DETAIL SHEETS
9 – 11	ADVANCED SIGNING AND DETOUR PLAN
12 – 20	MODIFY INPLACE SIGNS STAGE 1, PHASE 1A
21–25	MODIFY INPLACE SIGNS STAGE 1, PHASE 2
26 – 32	WEEKEND CLOSURE STAGE 1, PHASE 1A
33 – 49	STAGE 1, PHASE 1A
50 – 66	STAGE 1, PHASE 2
67 – 74	STAGE 1, PHASE 2A
75 – 93	STAGE 2, PHASE 1
94 – 101	STAGE 2, PHASE 2
102 – 107	STAGE 2, PHASE 2A
108 – 113	SPECIAL SIGN DETAILS

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: JVF/IKR
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC01
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
TITLE SHEET

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 277 / 681

PLOT DATE: Jan 17 12:26pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0.dwg

Xref'd Drawings
arl-keel-slg
EF-DWG-BDR
2x34bdr

TRAFFIC CONTROL SUMMARY

X

ITEM LIST		UNIT	STAGE 1				STAGE 2			TOTAL
ITEM No.	ITEM		WEEKEND CLOSURE	PHASE 1	PHASE 2	PHASE 2A	PHASE 1	PHASE 2	PHASE 2A	
2102	PAVEMENT MARKING REMOVAL - PERMANENT	SQ FT		50						50
2102	PAVEMENT MARKING REMOVAL	LIN FT		120	85	1470	17235	160		19070
2102	PAVEMENT MARKING REMOVAL - PERMANENT	LIN FT			8905	845	7865			17615
2533	PORTABLE PRECAST CONCRETE BARRIER DES 8337	LIN FT	2160		5141		1160			8461
2533	RELOCATE PORTABLE PRECAST CONC BARRIER DES 8337	LIN FT			600 [1]		5200 [1] [2]			5800
2554	IMPACT ATTENUATOR BARRELS	EACH	56		14					70
2554	RELOCATE IMPACT ATTENUATOR BARRELS	EACH			14 [1]		28 [1]			42
2563	TRAFFIC CONTROL	LUMP SUM	0.05	0.15	0.30	0.05	0.30	0.10	0.05	1
2563	RAISED PAVEMENT MARKER TEMPORARY	EACH		143	109	98	409	522	66	1347
2563	LINEAR DELINEATION PANEL	EACH					19			19
2563	MEDIAN BARRIER DELINEATOR	EACH	72		179		111			362
2563	POLICE OFFICER	HOUR	192							192
2563	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20							20
2563	CONSTRUCTION SIGN - SPECIAL	SQ. FT.	308.00	1757.75	59.75		113.25		64.00	2302.75
2581	REMOVABLE PREFORMED PLASTIC MARKING	LIN FT			635	2070	19872	15240	2285	40102
2581	REMOVABLE PREFORMED PLASTIC MASK (BLACK)	LIN FT			53	108				161
2582	PAVEMENT MESSAGE (LEFT ARROW) - PAINT	EACH							9	9
2582	PAVEMENT MESSAGE (RIGHT ARROW) - PAINT	EACH							5	5
2582	4" SOLID LINE WHITE - PAINT	LIN FT		1170	8010	235	3980	560	7127	21082
2582	8" BROKEN LINE WHITE - PAINT	LIN FT			1223		30			1253
2582	4" SOLID LINE YELLOW - PAINT	LIN FT		1980	6255	60			2140	10435
2582	4" DOUBLE SOLID LINE YELLOW - PAINT	LIN FT					2500	300	3709	6509
2582	8" DOTTED LINE WHITE - PAINT	LIN FT							49	49
2582	24" STOP LINE WHITE - PAINT	LIN FT							96	96
2582	4" BROKEN LINE WHITE - PAINT	LIN FT							850	850
2582	24" SOLID LINE YELLOW - PAINT	LIN FT							530	530
2582	CROSSWALK MARKING - PAINT	SQ FT							630	630

NOTES: THE PROVISIONS OF MN/DOT 1903 ARE MODIFIED SUCH THAT NO PRICE ADJUSTMENT WILL BE MADE IN THE EVENT OF INCREASED OR DECREASED QUANTITIES OF SEPARATE TRAFFIC CONTROL DEVICES.

[1] SINGLE RELOCATES
[2] DOUBLE RELOCATES - TO STOCKPILE FROM STOCKPILE

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JVF/IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC02
DATE: JANUARY 8, 2006

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
PAY ITEM TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 278 / 681

PLOT DATE: Jan 17 12:26pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 .dwg

Xref'd Drawings
1-keel-sig
F-DWG-BDR
x34bdr

"M" SERIES		
SIGN	SIGN NO.	SIZE AND COLOR
10	M1-4	24" x 24" BLACK ON WHITE
MINNESOTA 47	M1-5A	24" x 24" WHITE & GOLD ON BLUE
ANOKA 11 COUNTY	M1-6A	24" x 24" YELLOW & WHITE ON BLUE
ANOKA 78 COUNTY	M1-6A	24" x 24" YELLOW & WHITE ON BLUE
JCT	M2-1	21"x 15" BLACK ON WHITE
BEGIN	M2-X1	24"x 12" BLACK ON WHITE
NORTH	M3-1	24"x 12" BLACK ON WHITE
EAST	M3-2	24"x 12" BLACK ON WHITE
SOUTH	M3-3	24"x 12" BLACK ON WHITE
WEST	M3-4	24"x 12" BLACK ON WHITE
TO	M4-5	24"x 12" BLACK ON WHITE

"M" SERIES		
SIGN	SIGN NO.	SIZE AND COLOR
END	M4-6	24"x 12" BLACK ON WHITE
DETOUR	M4-8	24"x 12" BLACK ON ORANGE
DETOUR	M4-10L	48" x 18" BLACK ON ORANGE
DETOUR	M4-10R	48" x 18" BLACK ON ORANGE
	M5-1L	21"x 15" BLACK ON WHITE
	M5-1R	21"x 15" BLACK ON WHITE
	M5-2R	21"x 15" BLACK ON WHITE
	M6-1L	21"x 15" BLACK ON WHITE
	M6-1R	21"x 15" BLACK ON WHITE
	M6-2R	21"x 15" BLACK ON WHITE
	M6-3	21"x 15" BLACK ON WHITE

"R" SERIES		
SIGN	SIGN NO.	SIZE AND COLOR
STOP	R1-1	30" X 30" WHITE ON RED
YIELD	R1-2	36"x 36" RED ON WHITE
←LOOK→ BOTH WAYS	R1-X4	30"x 18" BLACK ON WHITE
	R3-1	24"x 24" BLACK ON WHITE
	R3-2	24"x 24" BLACK ON WHITE
ONLY	R3-5L	30" x 36" BLACK ON WHITE
ONLY	R3-5R	30" x 36" BLACK ON WHITE
	R3-6L	30" x 36" BLACK ON WHITE
	R3-6R	30" x 36" BLACK ON WHITE
ALL TRAFFIC MUST TURN RIGHT	R3-7L	30" x 30" BLACK ON WHITE
ALL TRAFFIC MUST TURN LEFT	R3-7R	30" x 30" BLACK ON WHITE

"R" SERIES		
SIGN	SIGN NO.	SIZE AND COLOR
ONLY ONLY	R3-30AC	36" x 30" BLACK ON WHITE
ONLY ONLY	R3-30CA	36" x 30" BLACK ON WHITE
ONLY ONLY	R3-30AA	36" x 30" BLACK ON WHITE
ONLY ONLY	R3-30AB	30" x 30" BLACK ON WHITE
ONLY ONLY	R3-30BA	30" x 30" BLACK ON WHITE
ONLY ONLY ONLY ONLY	R3-30ABCA	66" x 30" BLACK ON WHITE
ONLY ONLY ONLY	R3-30ACC	54" x 30" BLACK ON WHITE
ONLY	R3-30AE	30" x 30" BLACK ON WHITE
ONLY	R3-30DA	36" x 30" BLACK ON WHITE
	R3-30H	30" x 30" BLACK ON WHITE
RIGHT TURN LANE	R3-X1	30" x 30" BLACK ON WHITE

"R" SERIES		
SIGN	SIGN NO.	SIZE AND COLOR
LEFT TURN LANE	R3-X2	30"x 30" BLACK ON WHITE
	R4-7	24" x 30" BLACK ON WHITE
DO NOT ENTER	R5-1	30"x 30" WHITE ON RED
ONE WAY	R6-1L	36" x 12" BLACK ON WHITE
ONE WAY	R6-1R	36" x 12" BLACK ON WHITE
	R8-3A	18" x 18" BLACK AND RED ON WHITE
SIDEWALK CLOSED	R9-9	30" x 18" BLACK ON WHITE
ROAD CLOSED	R11-2	48" x 30" BLACK ON WHITE
BRIDGE CLOSED	R11-2A	48" x 30" BLACK ON WHITE
BRIDGE CLOSED 1 1/4 MILES AHEAD LOCAL TRAFFIC ONLY	R11-3C	72" x 30" BLACK ON WHITE
BRIDGE CLOSED 1 1/2 MILES AHEAD LOCAL TRAFFIC ONLY	R11-3C	72" x 30" BLACK ON WHITE

PLOT DATE: Jan 7 12:26pm DISK FILE NAME: (16.1) R:\33689\33869042\PLAN-SHT\TRAF-CONT-STAGE\04 .dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JVF/KR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC03
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

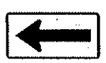
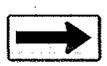
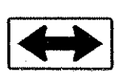
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
SIGN TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 279 / 681

Xref'd Drawings
rl-keel-sig
F-DWG-BDR
x34bdr

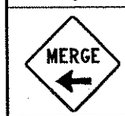
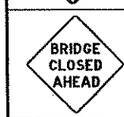
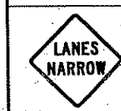
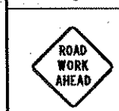
"W" SERIES

SIGN	SIGN NO.	SIZE AND COLOR
	W1-1L	36" x 36" BLACK ON ORANGE
	W1-1R	36" x 36" BLACK ON ORANGE
	W1-2R	36" x 36" BLACK ON ORANGE
	W1-2R	36" x 36" BLACK ON ORANGE
	W1-4L	36"x 36" BLACK ON ORANGE
	W1-4R	36"x 36" BLACK ON ORANGE
	W1-6L	48"x 24" BLACK ON ORANGE
	W1-6R	48"x 24" BLACK ON ORANGE
	W1-7	48"x 24" BLACK ON ORANGE
	W1-8	18"x 24" BLACK ON ORANGE
	W4-1R	36"x 36" BLACK ON YELLOW

"W" SERIES

SIGN	SIGN NO.	SIZE AND COLOR
	W4-2L	48" x 48" BLACK ON ORANGE
	W4-2R	48" x 48" BLACK ON ORANGE
	W6-1	36" x 36" BLACK ON ORANGE
	W6-2	36" x 36" BLACK ON ORANGE
	W6-3	36" x 36" BLACK ON ORANGE
	W9-1L	36" x 36" BLACK ON ORANGE
	W12-1	24"x 24" BLACK ON YELLOW
	W13-1	24"x 24" BLACK ON ORANGE
	W13-1 (30 MPH)	24"x 24" BLACK ON ORANGE
	W13-1 (40 MPH)	24"x 24" BLACK ON ORANGE
	W14-3	48"x 60"x 60" BLACK ON YELLOW

"W" SERIES

SIGN	SIGN NO.	SIZE AND COLOR
	W20-2	48"x 48" BLACK ON ORANGE
	W20-3	48"x 48" BLACK ON ORANGE
	W20-X3R	48" x 48" BLACK ON ORANGE
	W20-X3L	48" x 48" BLACK ON ORANGE
	W20-X4	48" x 48" BLACK ON ORANGE
	W20-X6	48" x 48" BLACK ON ORANGE
	W20-X16	48"x 48" BLACK ON ORANGE
	W20-X17	48"x 48" BLACK ON ORANGE
	W21-4	48"x 48" BLACK ON ORANGE
	W21-X1	48"x 48" BLACK ON ORANGE
	W21-X5L	48" x 48" BLACK ON ORANGE

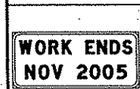
"W" SERIES

SIGN	SIGN NO.	SIZE AND COLOR
	W21-X5R	48" x 48" BLACK ON ORANGE

"D" SERIES

SIGN	SIGN NO.	SIZE AND COLOR
	E5-1	72"x 60" BLACK ON ORANGE

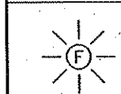
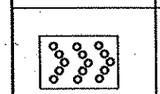
"G" SERIES

SIGN	SIGN NO.	SIZE AND COLOR
	G20-2A	48"x 24" BLACK ON ORANGE
	G20-X1 RAMP	72"x 60" BLACK ON ORANGE
	G20-X1 BRIDGE	72"x 60" BLACK ON ORANGE
	G20-X3	60"x 24" BLACK ON ORANGE

"X" SERIES

SIGN	SIGN NO.	SIZE AND COLOR
	X4-2	18" x 18" YELLOW ON YELLOW
	X4-4L	18" x 36" ORANGE ON BLACK
	X4-4R	18" x 36" ORANGE ON BLACK

"DEVICES" SERIES

SIGN	SIGN NO.	SIZE AND COLOR
	DRUM	ORANGE
	FLASHER	YELLOW
	T3L TYPE III BARRICADE	ORANGE ON WHITE
	T3R TYPE III BARRICADE	ORANGE ON WHITE
	FLASHING ARROW BOARD	

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JVF/IKR
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC04
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 TEL
612.370.1378 Fax

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Karl P. Keel.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

SIGN TABULATION

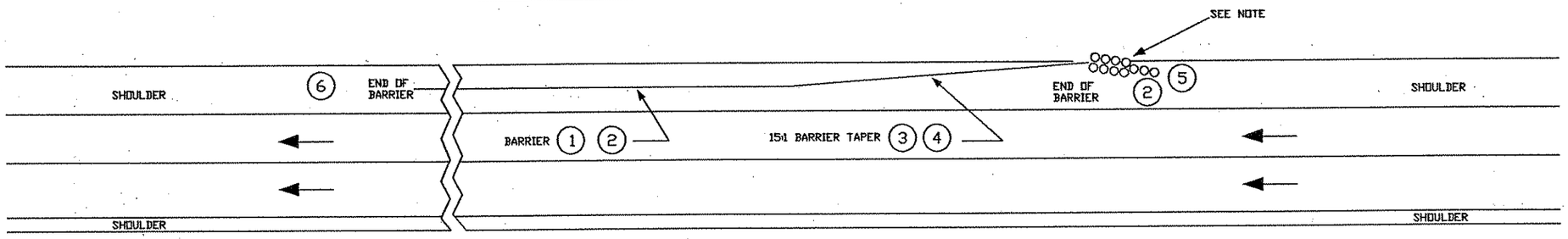
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 280 / 681

PLOT DATE: Jan 17 12:26pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04 dwg

Xref's Drawings
rl-keel-sig
F-DWG-BDR
x34bdr

PORTABLE CONCRETE BARRIER PLACEMENT



(1) IT IS DESIRABLE TO MAINTAIN FULL SHOULDER WIDTH WHENEVER POSSIBLE. IF NOT POSSIBLE, MINIMUM DESIRABLE LATERAL OFFSETS ARE BASED ON THE FOLLOWING POSTED SPEEDS:

65 MPH - 10 FEET
60 MPH - 8 FEET
50 MPH - 6.5 FEET
40 MPH - 5 FEET

FOR RESTRICTED CONDITIONS, LESSER OFFSETS MAY BE USED. THE OFFSETS SHOULD BE A MINIMUM OF 2 FEET UNLESS THE CONDITIONS ARE EXTREME. LATERAL OFFSETS ARE MEASURED TO THE BOTTOM OF THE BARRIER. BARRIER OFFSET FROM EDGE OF THRU LANE SHOULD NOT EXCEED 15 FEET.

(2) DESIRABLE TREATMENTS FOR EXPOSED BARRIER ENDS ARE; A CONNECTION TO EXISTING BARRIER; IMPACT ATTENUATOR; TAPER AWAY TO THE EDGE OF THE CLEAR ZONE; AND EXTENDING THROUGH A PLATE BEAM GUARDRAIL BY REMOVING A PANEL.

FOR POSTED SPEEDS 30 MPH OR LESS, THE TAPERING AWAY FROM THE TRAFFIC IS DESIRABLE AND USE OF IMPACT ATTENUATOR ARE OPTIONAL.

(3) A 10:1 TAPER MAY BE USED WHEN POSTED SPEED LIMIT IS 35 MPH OR LESS.

(4) IF THE BARRIER IS TO BE EXTENDED BEYOND THE SHOULDER, ADDITIONAL FILL WILL BE NEEDED IN ORDER TO PROVIDE A FLAT (1:10) APPROACH AREA TO THE BARRIER. FILL WILL BE INCIDENTAL TO BARRIER AND/OR IMPACT ATTENUATOR. (SEE SHOULDER FILL DETAIL BELOW)

(5) THE IMPACT ATTENUATOR SHOULD BE OFFSET A MINIMUM OF 2 FT. FROM THE EDGE OF THE THRU LANE (SEE SAND BARREL OFFSET DETAIL). THE IMPACT ATTENUATOR SHOULD BE ORIENTED TO ACCOMMODATE THE PROBABLE IMPACT ANGLE OF AN ENCROACHING VEHICLE. FOR MOST ROADSIDE CONDITIONS, AN ANGLE APPROXIMATELY 10 DEGREES, AS MEASURED BETWEEN THE HIGHWAY AND THE IMPACT ATTENUATOR LONGITUDINAL CENTERLINE, IS CONSIDERED APPROPRIATE (SEE SHOULDER FILL DETAIL). FOR SAND BARREL ARRANGEMENT SEE DETAIL BELOW.

(6) FOR TWO-LANE TWO-WAY TRAFFIC BOTH ENDS OF THE BARRIER SHOULD BE TREATED IN THE SAME MANNER AS DESCRIBED IN (2)

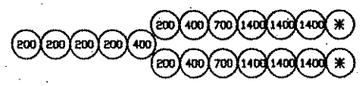
NOTE:

AT THE DIRECTION OF THE ENGINEER, OTHER APPROVED IMPACT ATTENUATORS CAN BE SUBSTITUTED IN LIEU OF THE SAND BARRELS ESPECIALLY WHERE REDIRECTION IS DESIRED OR AT WIDTH RESTRICTED AREAS.

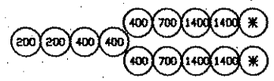
SAND FILLED BARREL ARRANGEMENT

NUMBERS INDICATE STANDARD MODULE WEIGHTS IN POUNDS.

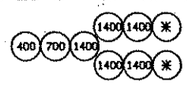
POSTED SPEED: 70 MPH



POSTED SPEED: 65 MPH

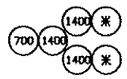


POSTED SPEED: 35-40 MPH



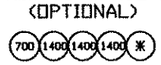
POSTED SPEED: 55-60 MPH

POSTED SPEED : 30 MPH (OPTIONAL)



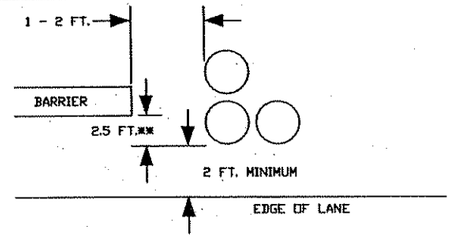
POSTED SPEED: 45-50 MPH

POSTED SPEED: 30 MPH RESTRICTED SPACE ONLY (OPTIONAL)



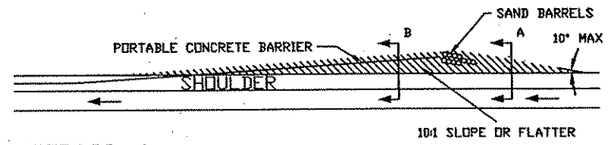
(*) USE A 2100 POUND DRUM FOR ENERGITE SYSTEM AND A 1400 POUND DRUM FOR A FITCH SYSTEM.

SAND FILLED BARREL OFFSET

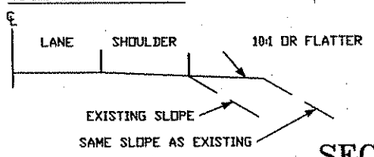


** DISTANCE MAY BE REDUCED TO MINIMUM OF 15 IN. (1.25 FT.). THIS IS ACCEPTABLE ONLY WHERE A GREATER OFFSET WOULD CAUSE UNACCEPTABLE INTERFERENCE WITH TRAFFIC.

SHOULDER FILL



SECTION A



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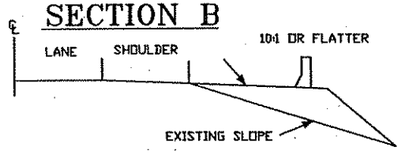

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC05
DATE: JANUARY 8, 2006

URS
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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
PORTABLE CONCRETE BARRIER END TREATMENT

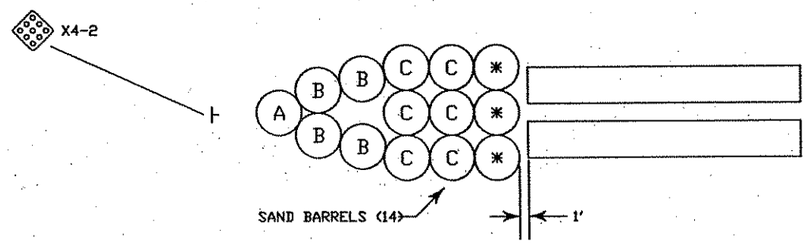
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 281 / 681

PLOT DATE: Jan 8, 07 12:26pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04

END TREATMENTS

ATTENUATOR ASSEMBLY NO. 1



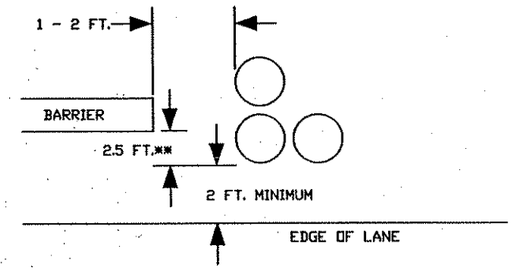
BARREL WT
A = 400 LBS
B = 700 LBS
C = 1400 LBS
* = 2100 LBS

(*) =USE A 2100 POUND DRUM FOR A ENERGITE SYSTEM.
=USE A 1400 POUND DRUM FOR A FITCH SYSTEM.

NOTE:

1. ALIGN BARRELS PARALLEL TO APPROACHING TRAFFIC.
2. NUMBERS INDICATE STANDARD MODULE WEIGHTS IN POUNDS.

SAND BARREL OFFSET



** DISTANCE MAY BE REDUCED TO MINIMUM OF 15 IN. (1.25 FT.). THIS IS ACCEPTABLE ONLY WHERE A GREATER OFFSET WOULD CAUSE UNACCEPTABLE INTERFERENCE WITH TRAFFIC.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC06
DATE: JANUARY 8, 2006

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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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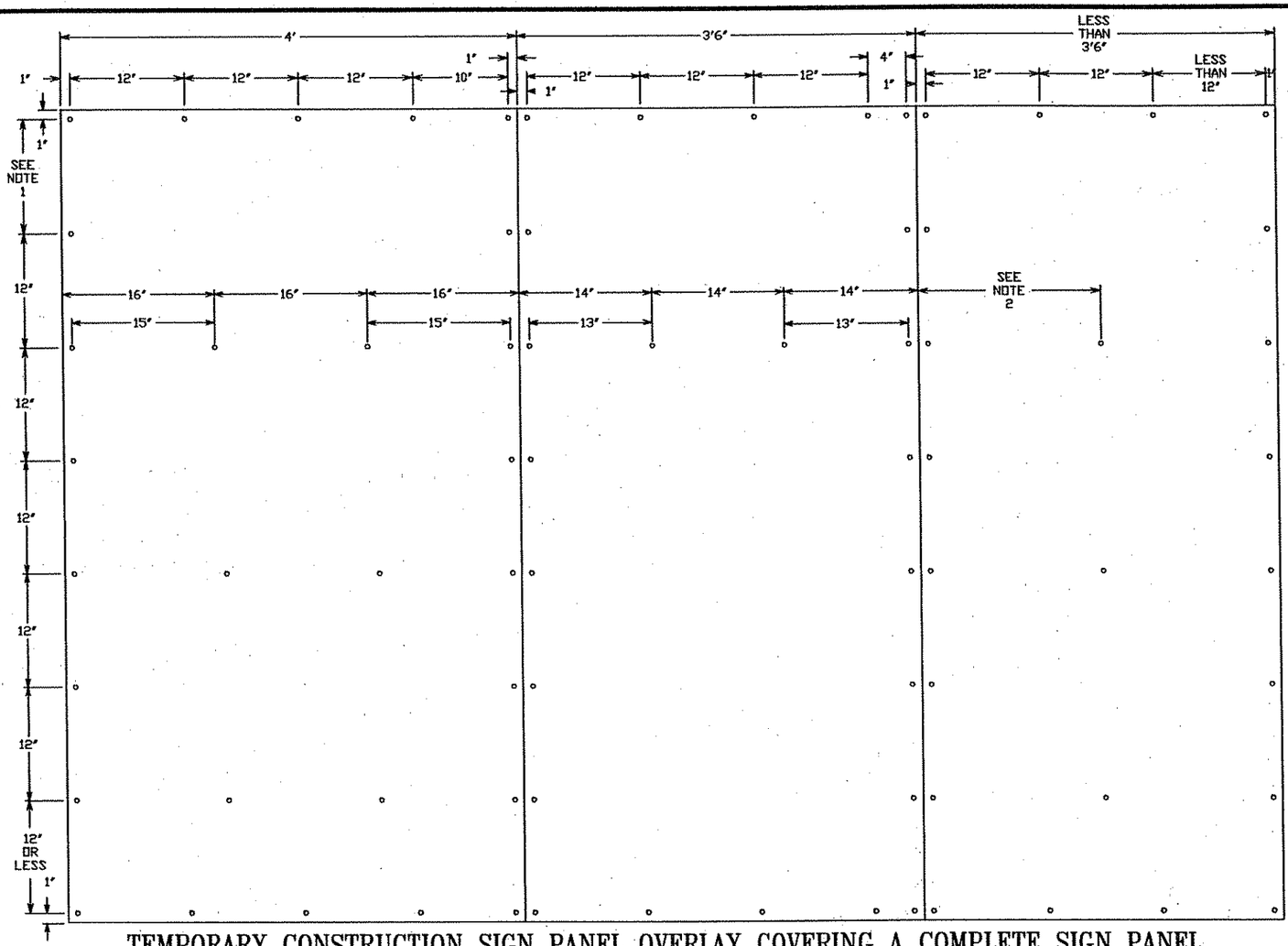
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD
INTERCHANGE
TRAFFIC CONTROL
PORTABLE CONCRETE BARRIER
END TREATMENT

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 282 / 681

PLOT DATE: Jan 07, 2008 12:26pm DISK FILE NAME: (16:1) R:\33889\338890421PLAN-SHT\TRAF-CONT-STAGE\04.dwg



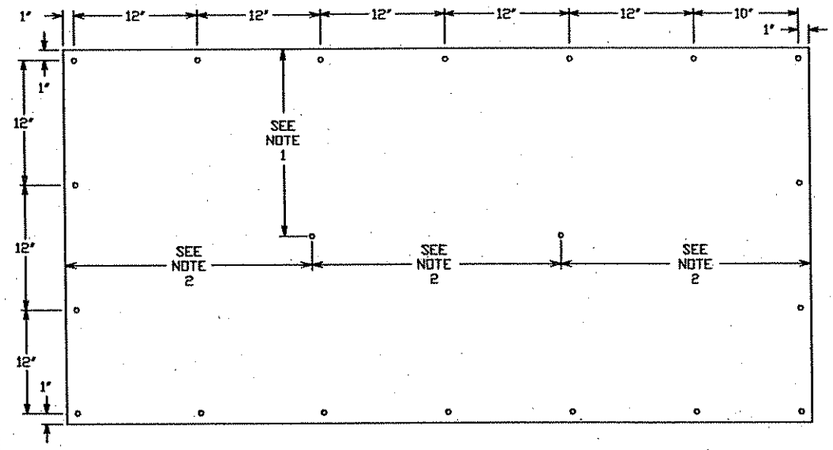
TEMPORARY CONSTRUCTION SIGN PANEL OVERLAY COVERING A COMPLETE SIGN PANEL

OVERLAY ASSEMBLY STEPS:

1. DRILL 13/64" HOLES ON THE SHEET ALUMINUM OVERLAYS IN ACCORDANCE WITH HOLE SPACING ON DIAGRAM. OUTSIDE HOLES SHALL NOT BE SPACED MORE THAN 12" APART.
2. ATTACH ONE PLASTIC WASHER (1/8" THICK, 3/8" I.D. AND 7/8" O.D.), WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
3. POSITION THE FAR LEFT SHEET ALUMINUM OVERLAY PANEL WITH THE BOTTOM FLUSH WITH THE INPLACE SIGN PANEL AND THE LOWER LEFT EDGE OF THE OVERLAY PANEL LINED UP WITH THE LOWER LEFT EDGE OF THE BOTTOM INPLACE PANEL SECTION.
4. DRILL ALL OUTSIDE HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH OVERLAY PANEL WITH 3/16" POP RIVETS MEETING THE REQUIREMENTS ON Mn/DOT 3352.A7a.
5. DRILL THE INNER HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH WITH RIVETS AS SPECIFIED IN STEP 4.
6. ABUT THE NEXT OVERLAY PANEL TO THE FIRST ATTACHED OVERLAY PANEL AND PERFORM THE SAME WORK AS SPECIFIED IN STEPS 4 AND 5.
7. INSTALL EACH ADDITIONAL OVERLAY PANEL AS SPECIFIED IN STEP 6.

NOTES:

1. IF TOP PANEL IS 6" HIGH, THIS VERTICAL SPACE IS 6"; IF TOP PANEL IS 12" HIGH, THIS VERTICAL SPACE IS 12".
2. SHEET ALUMINUM PANEL RIVET SPACING SHALL BE 1/2 THE PANEL'S WIDTH.



TEMPORARY CONSTRUCTION SIGN PANEL OVERLAY COVERING A PORTION OF A SIGN PANEL

OVERLAY ASSEMBLY STEPS:

1. DRILL 13/64" HOLES ON THE SHEET ALUMINUM OVERLAYS IN ACCORDANCE WITH HOLE SPACING ON DIAGRAM. OUTSIDE HOLES SHALL NOT BE SPACED MORE THAN 12" APART.
2. ATTACH ONE PLASTIC WASHER (1/8" THICK, 3/8" I.D., AND 7/8" O.D.), WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
3. POSITION THE OVERLAY PANEL, ON THE INPLACE SIGN PANEL, MAKING SURE THE MOUNTING HOLES ON THE OVERLAY PANEL DO NOT LINE UP WITH ANY HORIZONTAL ALUMINUM PANEL JOINTS.
4. DRILL ALL OUTSIDE HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH OVERLAY PANEL WITH 3/16" POP RIVETS MEETING THE REQUIREMENTS ON Mn/DOT 3352.A7a.
5. DRILL THE INNER HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH WITH THE SAME RIVETS AS SPECIFIED IN STEP 4.

NOTES:

1. VERTICAL SPACING FOR INNER MOUNTING HOLES IS 1/2 THE PANEL HEIGHT. IF THE PANEL IS LESS THAN 24" HIGH, THERE SHALL BE NO INNER HOLES.
2. HORIZONTAL SPACING FOR INNER MOUNTING HOLES SHALL NOT BE LESS THAN 15", NOR MORE THAN 24".

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC07
DATE: JANUARY 8, 2006

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700 Third Street South
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612.370.0700 Tel
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD
INTERCHANGE
TRAFFIC CONTROL
TEMPORARY CONSTRUCTION SIGN PANEL OVERLAY COVERING

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

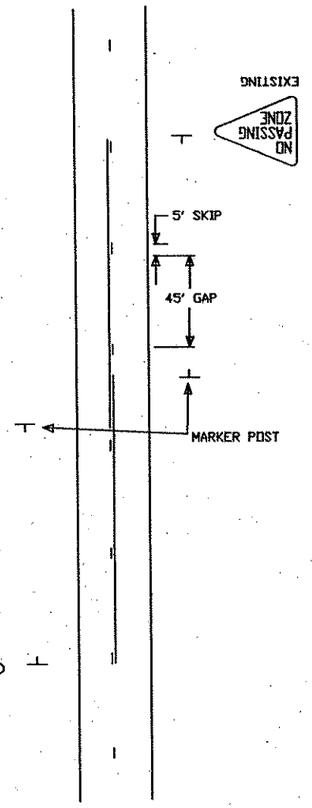
SHEET NO. 283/681

PLOT DATE: Jan 04, 07 12:26pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04.dwg

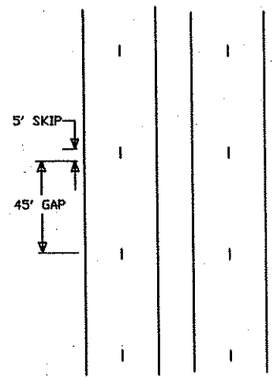
Xref'd Drawings
rl-keel-sig
F-DWG-BDR
x34bdr

INTERIM PAVEMENT MARKING

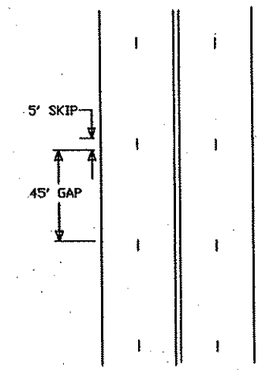
TWO LANE, TWO WAY



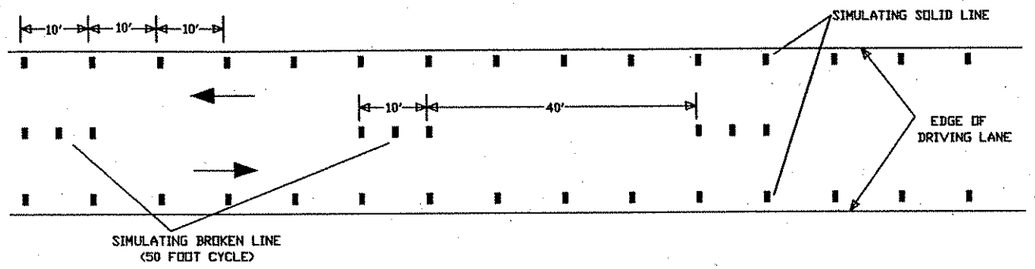
MULTI-LANE, DIVIDED



MULTI-LANE, UNDIVIDED



SIMULATING A SOLID LINE AND A BROKEN LINE (50 FOOT CYCLE) WITH TRPM



USING TRPM'S AS INTERIM PAVEMENT MARKING

WHEN TRPM'S ARE USED TO SIMULATE A LINE THE FOLLOWING GUIDELINE APPLIES:

SKIP STRIPE - USES 3 TRPM's PER 10' SKIP STRIPE ON 5' CENTERS WITH A 40' GAP

SOLID LINE - USES TRPM'S ON 10' CENTERS ON TANGENTS, FLATTER GRADES AND CURVES UNDER 6 DEGREES. FOR CURVES OVER 6 DEGREES AND STEEP GRADES, THIS SPACING SHALL BE REDUCED TO 5' CENTERS.

GENERAL NOTES:

SEE SPECIAL PROVISIONS FOR INTERIM PAVEMENT MARKING GUIDELINES

THESE INTERIM PAVEMENT MARKING GUIDELINES APPLY TO ALL TEMPORARY TRAFFIC CONTROL ZONES OF AT LEAST 300' IN LENGTH ON TANGENT AND 50' ON CURVES OF 6 DEGREES OR GREATER.

1. FOR ALL PROJECTS GREATER THAN 1.25 MILES IN LENGTH, INTERIM SKIP STRIPE PAVEMENT MARKINGS SHALL USE THE SAME CYCLE LENGTH AS FINAL PAVEMENT MARKINGS (50') AND SHALL BE A MINIMUM OF 5' LENGTH.

2. ON PROJECTS GREATER THAN 300' IN LENGTH, BUT LESS THAN 1.25 MILES IN LENGTH, THE INTERIM MARKING SHALL MATCH THE CYCLE LENGTH AT EITHER END OF THE PROJECT. THE INTERIM STRIPE SHALL BE 5' IN LENGTH.

ALL INTERIM MARKINGS SHALL BE INSTALLED PRIOR TO REMOVING LANE CLOSURE OR OPENING THE ROADWAY TO TRAFFIC.

GENERAL NOTES (CONTINUED):

FINAL MARKINGS AND ALL OTHER PAVEMENT MARKINGS INCLUDING EDGELINES, CHANNELIZING LINES, LANE REDUCTION TRANSITIONS, GORE MARKINGS AND OTHER LONGITUDINAL MARKINGS AND THE VARIOUS NON-LONGITUDINAL MARKINGS (STOP LINES, RAIL ROAD CROSSINGS, CROSSWALKS, WORDS, SYMBOLS, ETC) SHOULD BE INSTALLED WITHIN 14 CALENDAR DAYS.

NOTE: WHEN FINAL MARKINGS ARE TO BE EPOXY AND PAINT IS USED FOR INTERIM SOLID LINES, A 10 MIL THICK LAYER APPLICATION OF A WATER-BASED TRAFFIC MARKING PAINT SHALL BE USED WITH A 10 MIL LAYER OF PAINT APPLIED. BEADS SHOULD BE APPLIED AT A RATE OF 6 LBS/GAL. REMOVAL OF THE 10 MIL LAYER OF PAINT IS NOT REQUIRED PRIOR TO PLACING THE EPOXY.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC08
DATE: JANUARY 8, 2006

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700 Third Street South
Minneapolis, MN 55415
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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

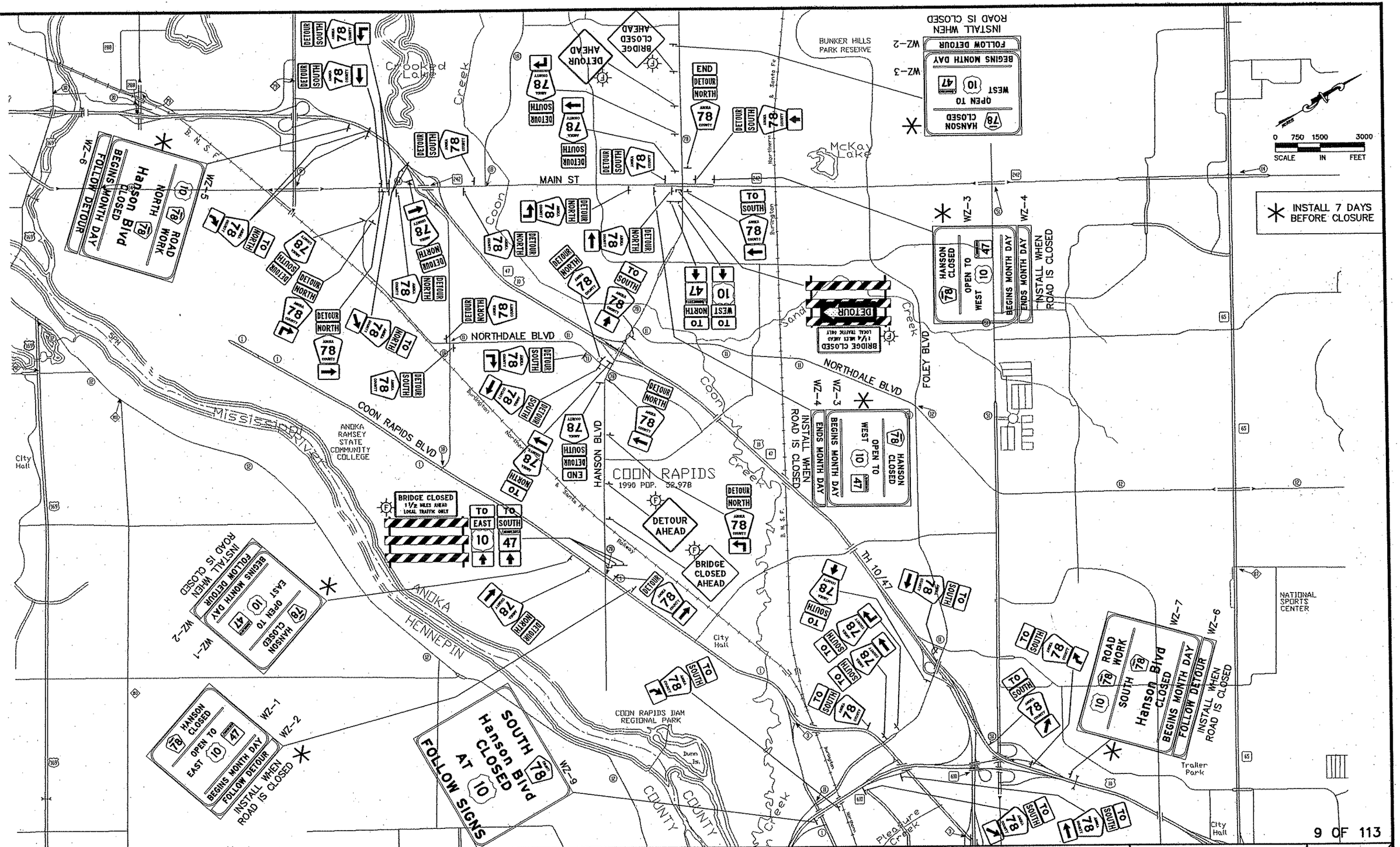
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
INTERIM PAVEMENT MARKING DETAIL

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 284 / 681

PLOT DATE: Jan 07 12:26pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04.dwg

Xref'd Drawings
rl-keel-sig
IDOT-MAPS-3F5G4F4G
F-DWG-BDR
x34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC09
DATE: JANUARY 8, 2006

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

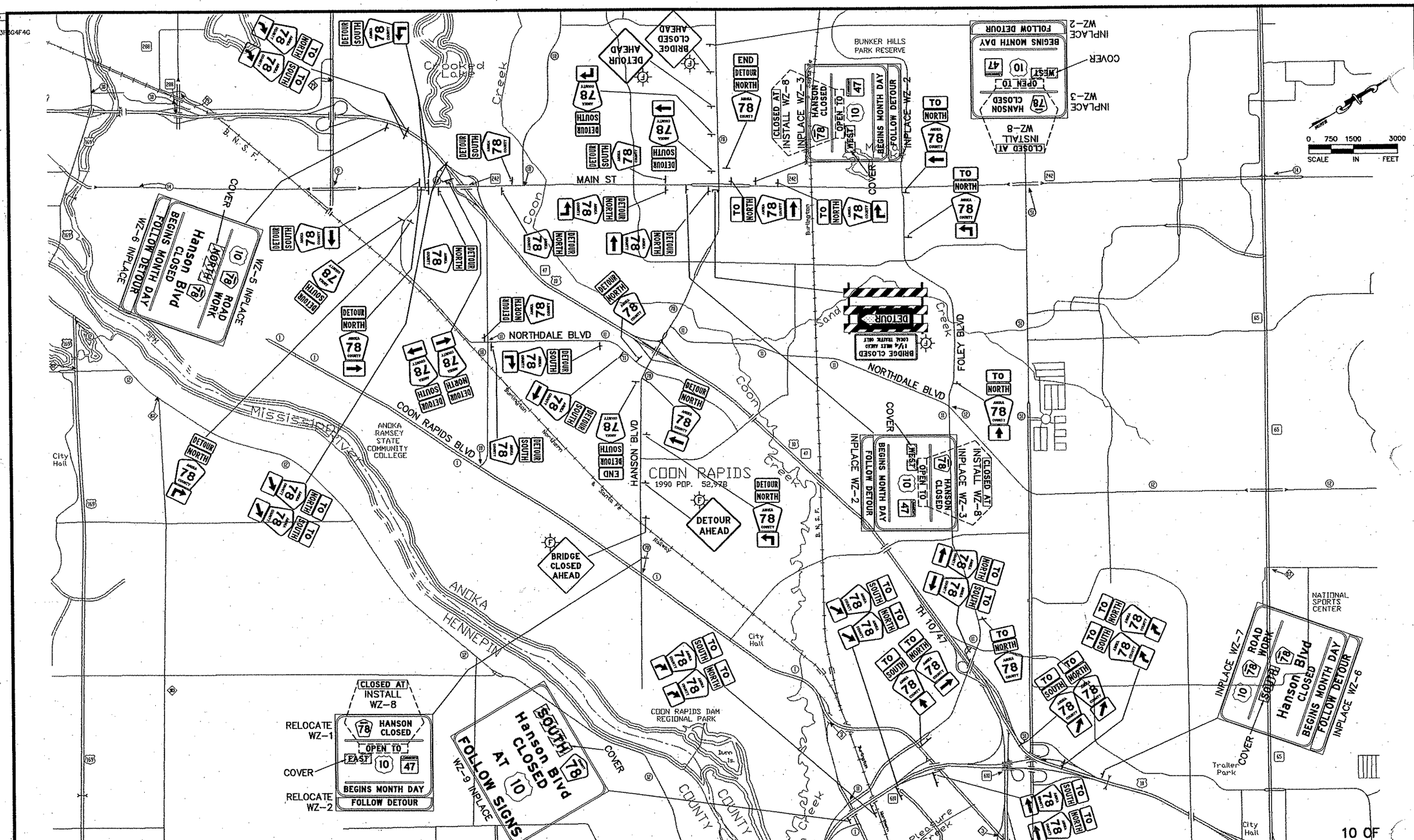
TRAFFIC CONTROL

ADVANCED SIGNING / DETOUR PLAN
STAGE 1 PHASE 1A

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 285 / 681

PLOT DATE: Jan 6 .7 12:26pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04 .swg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC09A
DATE: JANUARY 8, 2006

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
ADVANCED SIGNING / DETOUR PLAN
STAGE 1 PHASE 2 & 2A SOUTH RAMP CLOSURE
STAGE 2 PHASE 1 NORTH RAMP CLOSURE

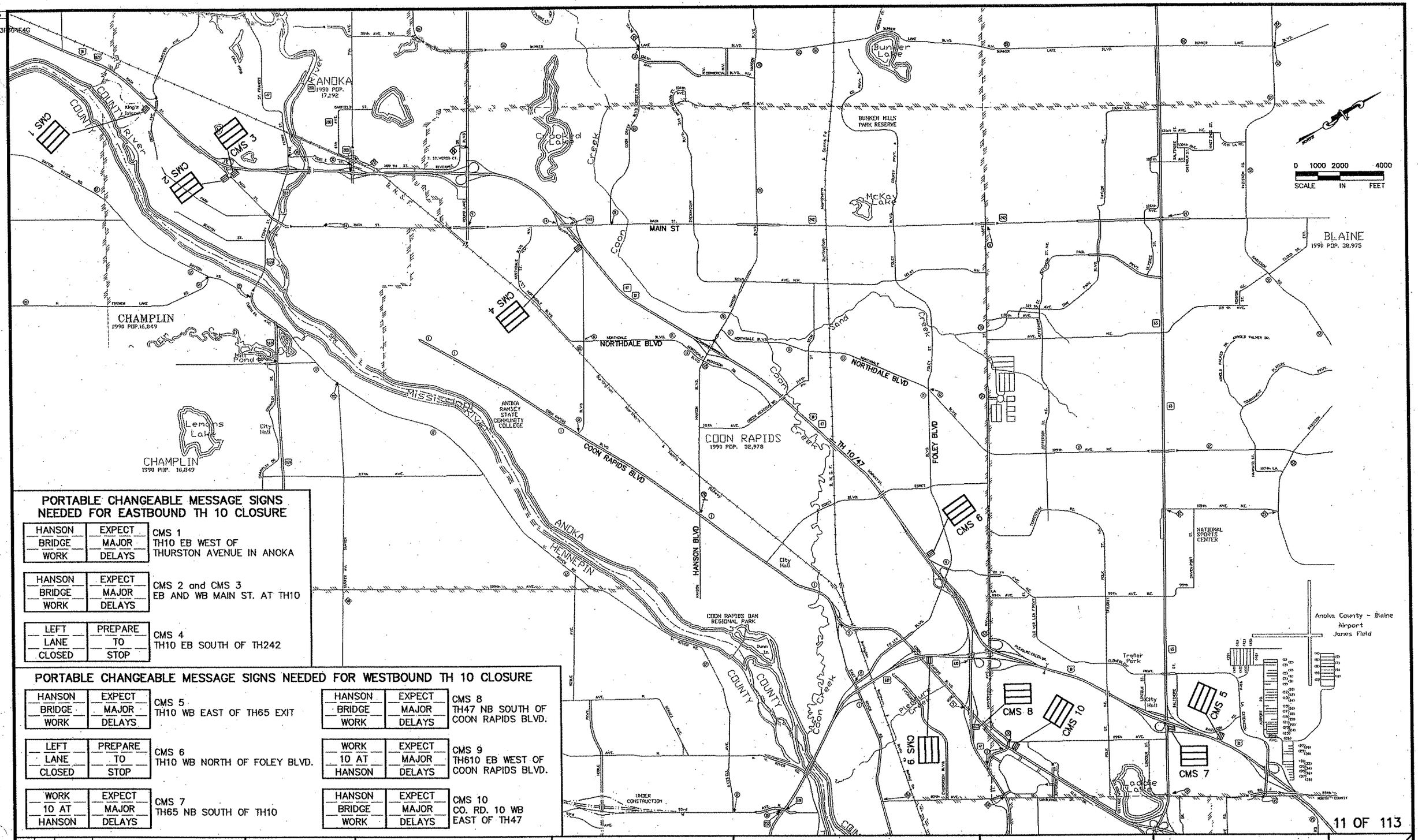
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 286 / 681

10 OF

PLOT DATE: Jan 0 7 12:26pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04 .dwg

Xref'd Drawings
ri-keel-sig
IDOT--MAPS--3F
F-DWG-BDR
x34bdr



PORTABLE CHANGEABLE MESSAGE SIGNS NEEDED FOR EASTBOUND TH 10 CLOSURE

HANSON BRIDGE WORK	EXPECT MAJOR DELAYS	CMS 1 TH10 EB WEST OF THURSTON AVENUE IN ANOKA
HANSON BRIDGE WORK	EXPECT MAJOR DELAYS	CMS 2 and CMS 3 EB AND WB MAIN ST. AT TH10
LEFT LANE CLOSED	PREPARE TO STOP	CMS 4 TH10 EB SOUTH OF TH242

PORTABLE CHANGEABLE MESSAGE SIGNS NEEDED FOR WESTBOUND TH 10 CLOSURE

HANSON BRIDGE WORK	EXPECT MAJOR DELAYS	CMS 5 TH10 WB EAST OF TH65 EXIT
LEFT LANE CLOSED	PREPARE TO STOP	CMS 6 TH10 WB NORTH OF FOLEY BLVD.
WORK 10 AT HANSON	EXPECT MAJOR DELAYS	CMS 7 TH65 NB SOUTH OF TH10
HANSON BRIDGE WORK	EXPECT MAJOR DELAYS	CMS 8 TH47 NB SOUTH OF COON RAPIDS BLVD.
WORK 10 AT HANSON	EXPECT MAJOR DELAYS	CMS 9 TH610 EB WEST OF COON RAPIDS BLVD.
HANSON BRIDGE WORK	EXPECT MAJOR DELAYS	CMS 10 CO. RD. 10 WB EAST OF TH47

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC09B
DATE: JANUARY 8, 2006

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

TRAFFIC CONTROL

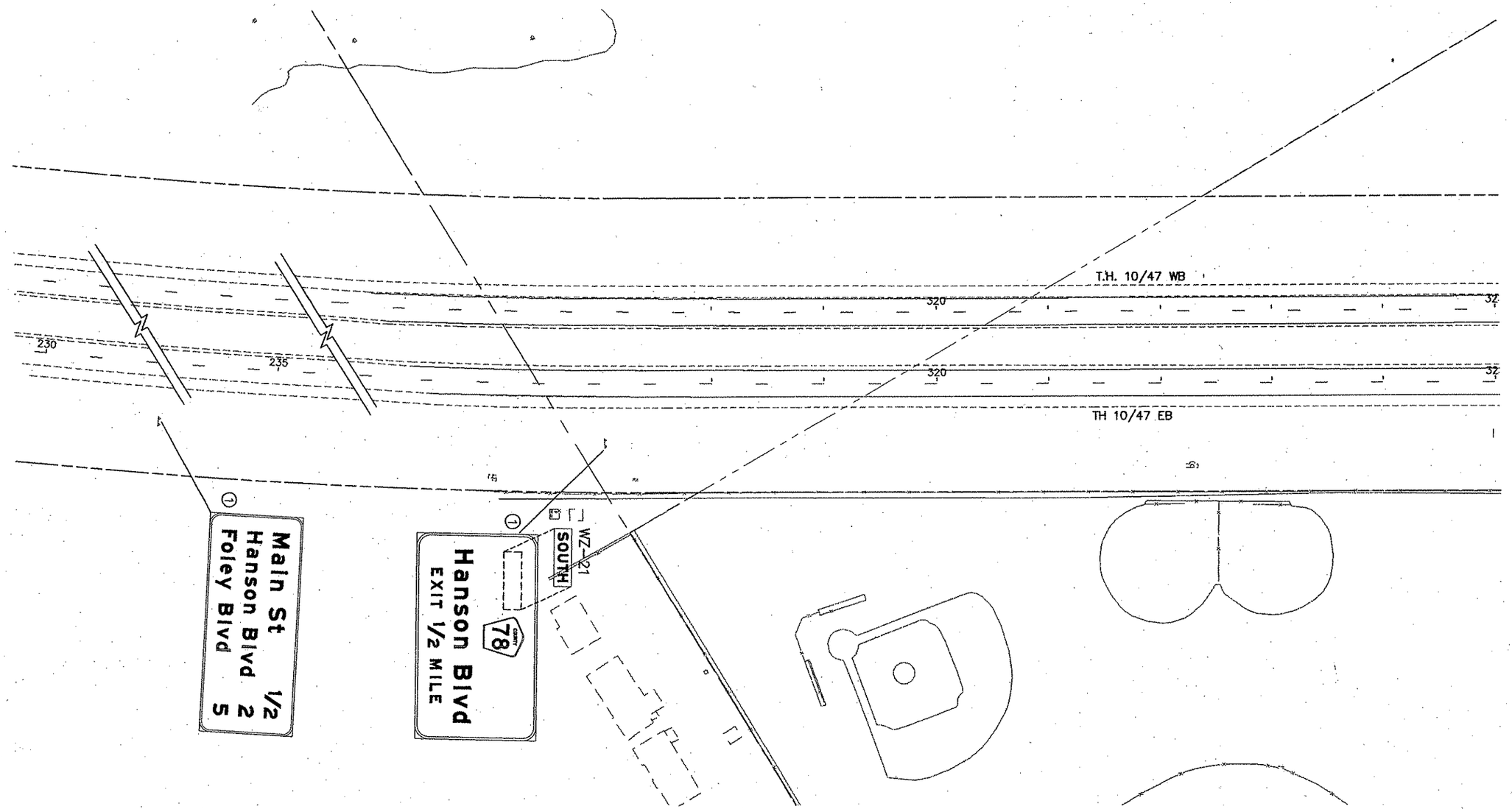
ADVANCED SIGNING
PORTABLE CHANGEABLE MESSAGE SIGNS
WEEKEND CLOSURES

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 287 / 681

PLOT DATE: Jan 07 12:26pm DISK FILE NAME: (16.1) R:\33689\338890421PLAN-SHT\TRAF-CONT-STAGE1\C

Xref'd Drawings
rl-keel-slg
2TCNOTES
SGN-S1P1
-striping
ISN-ETO
ISN-ALI
F-DWG-BDR
ISN-ESU
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

12 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: MDSG01
DATE: JANUARY 8, 2006

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

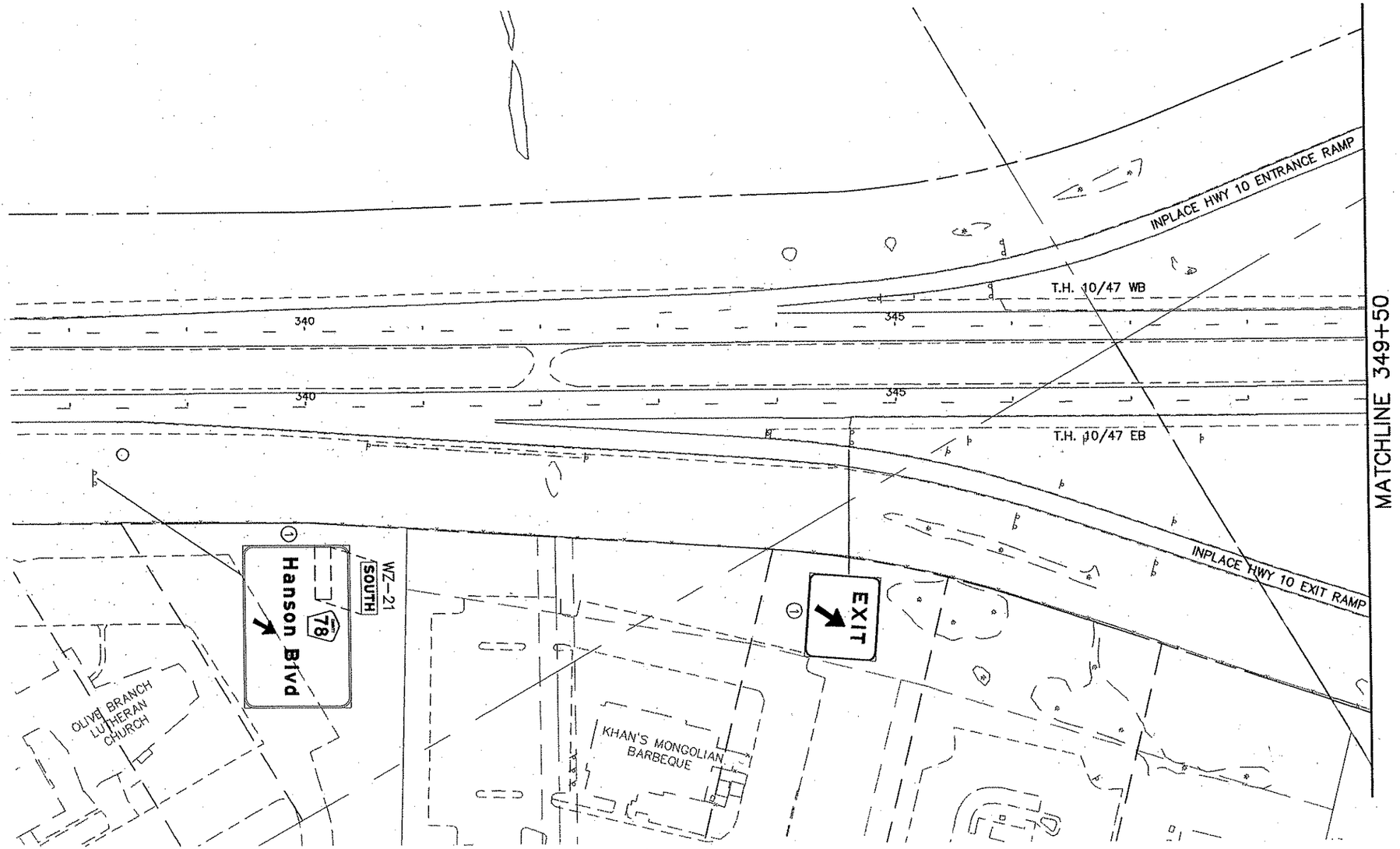
TRAFFIC CONTROL

MODIFY INPLACE SIGNS
STAGE 1 PHASE 1A
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 288 / 681

PLOT DATE: Jan 7 12:24pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04-01.dwg



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: MDSG01A
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel.
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

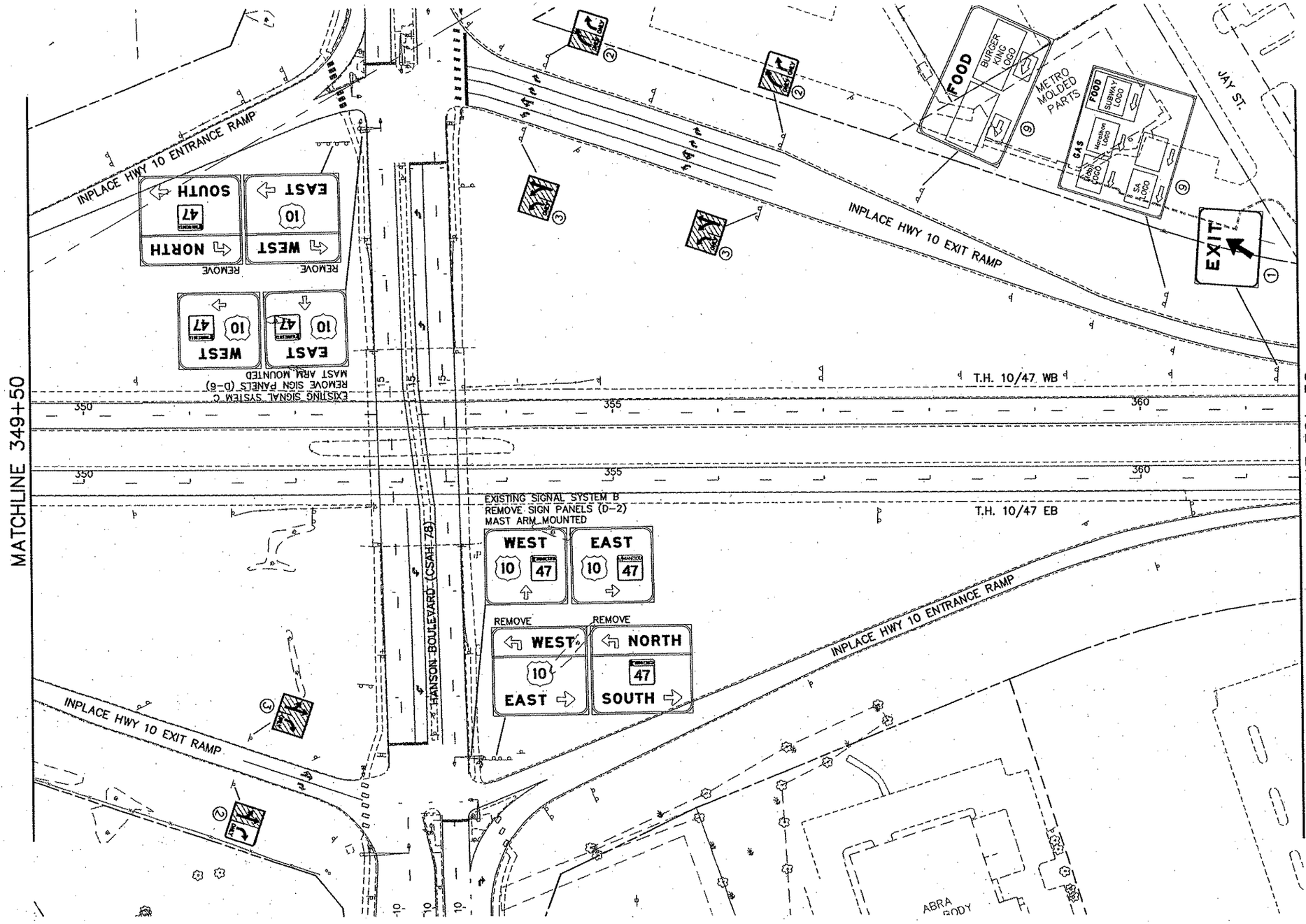
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
MODIFY INPLACE SIGNS
STAGE 1 PHASE 1A
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 289 / 681

PLOT DATE: Jan 0 7 12:24pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04 1A.dwg

Xref'd Drawings
rl-keel-sig
2TCNOTES
SGN-S1P1
-striping
ISN-ETO
ISN-AU
T-DWG-BDR
ISN-ESU
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

- REMOVALS
- TEMPORARY PAVEMENT
- WORK AREA
- TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: MDSG01B
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

TRAFFIC CONTROL

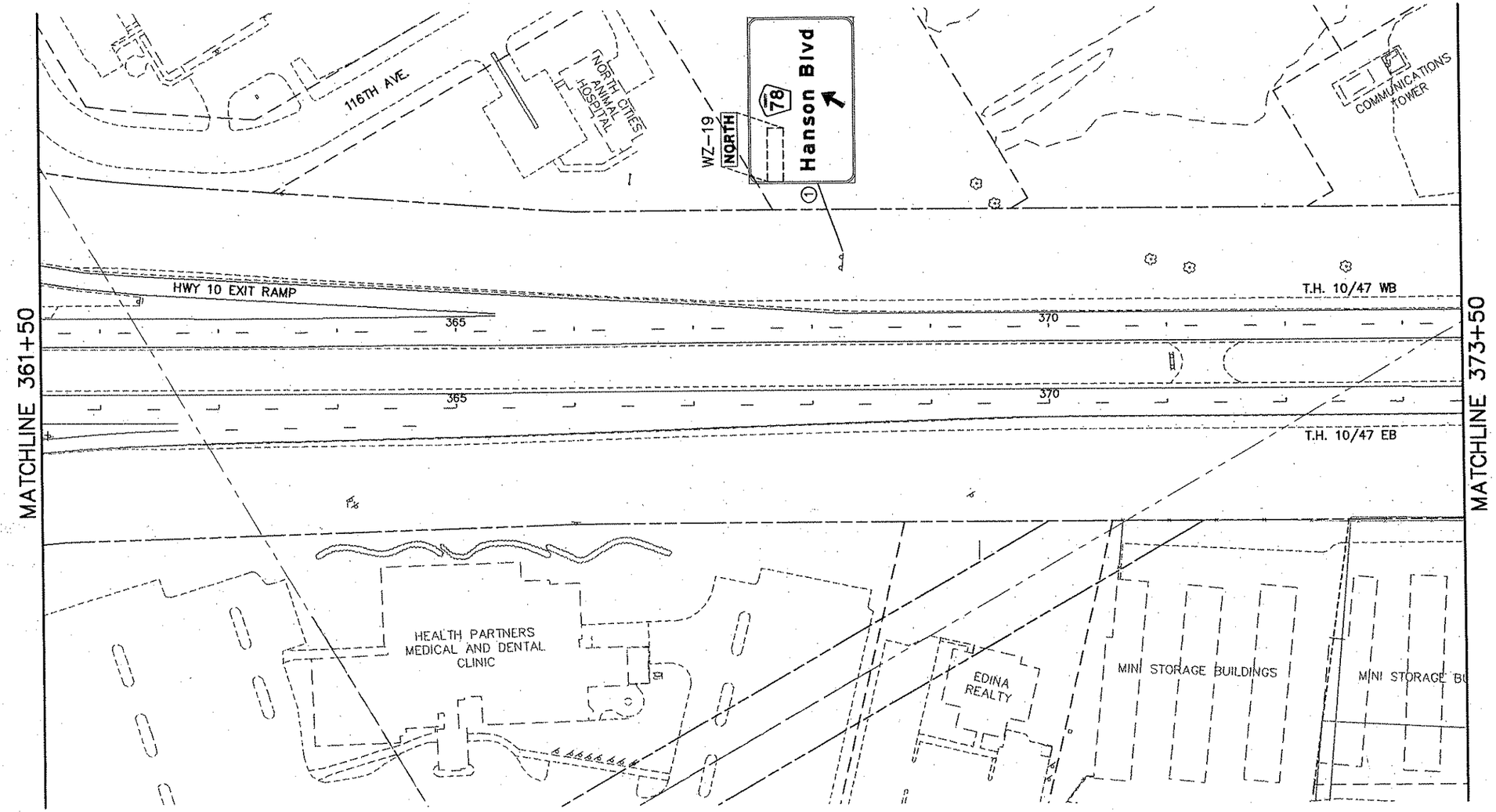
MODIFY INPLACE SIGNS
STAGE 1 PHASE 1A
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 290 / 681

PLOT DATE: Jan 17 12:25pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1\0...3018.dwg

Xref'd Drawings
-1-keel-sig
2TCNOTES
SGN-S1P1
-striping
ISN-ETC
ISN-ALI
F BDR



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

PLOT DATE: Jan 07 12:25pm DISK FILE NAME: (16.1) R:\33889\338889042\PLAN-SHT\TRAF-CONT-STAGE\04 02.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: MDSG02
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

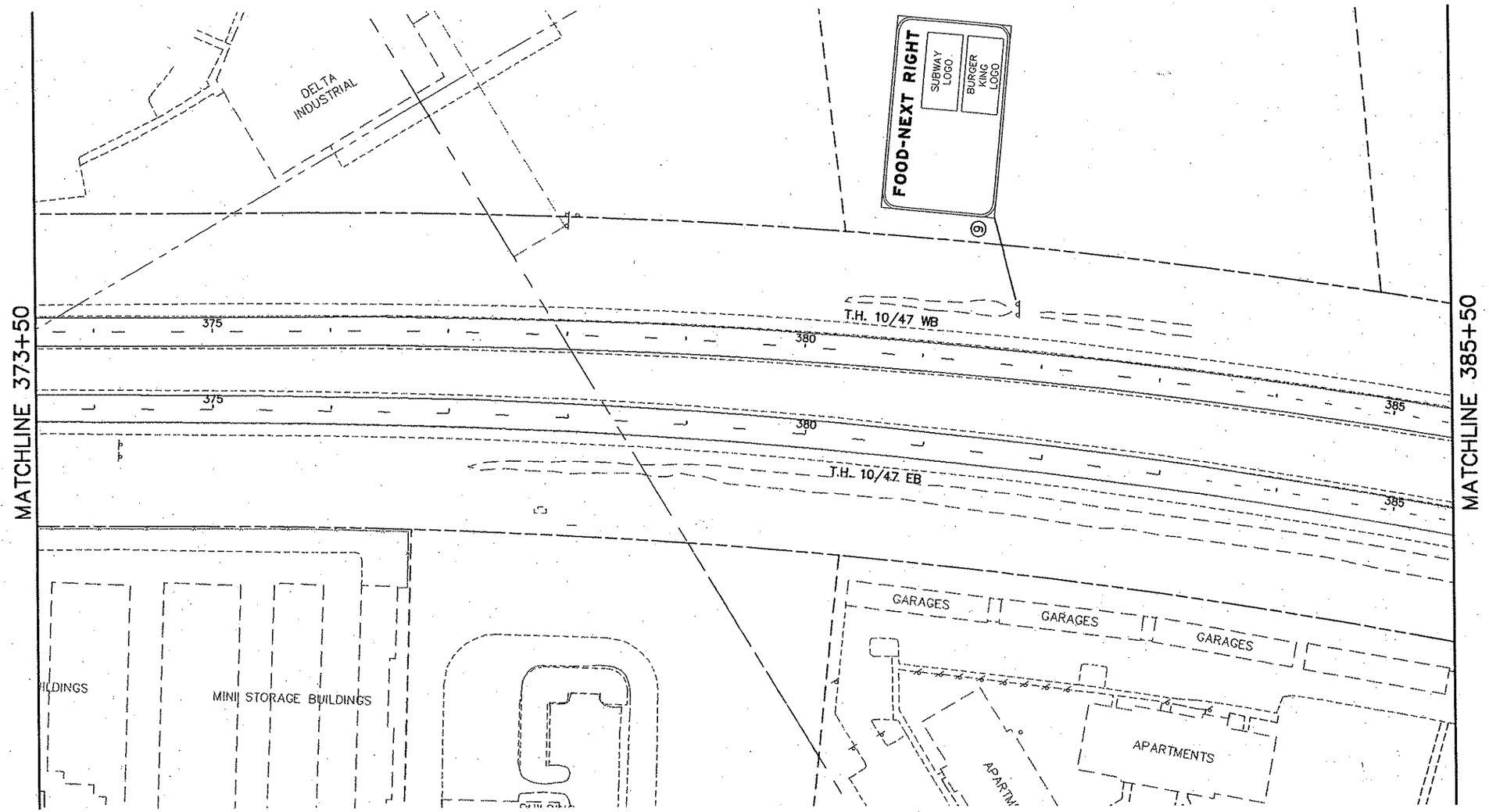
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
MODIFY INPLACE SIGNS
STAGE 1 PHASE 1A
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 291 / 681

Xref'd Drawings
1-keel-sig
2TCNOTES
SGN-S1P1
-striping
SN-ETO
SN-ALI
F-DWG-BDR
ISN-ESU
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

PLOT DATE: Jan 7 12:25pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1\04-33.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: MDSG03
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

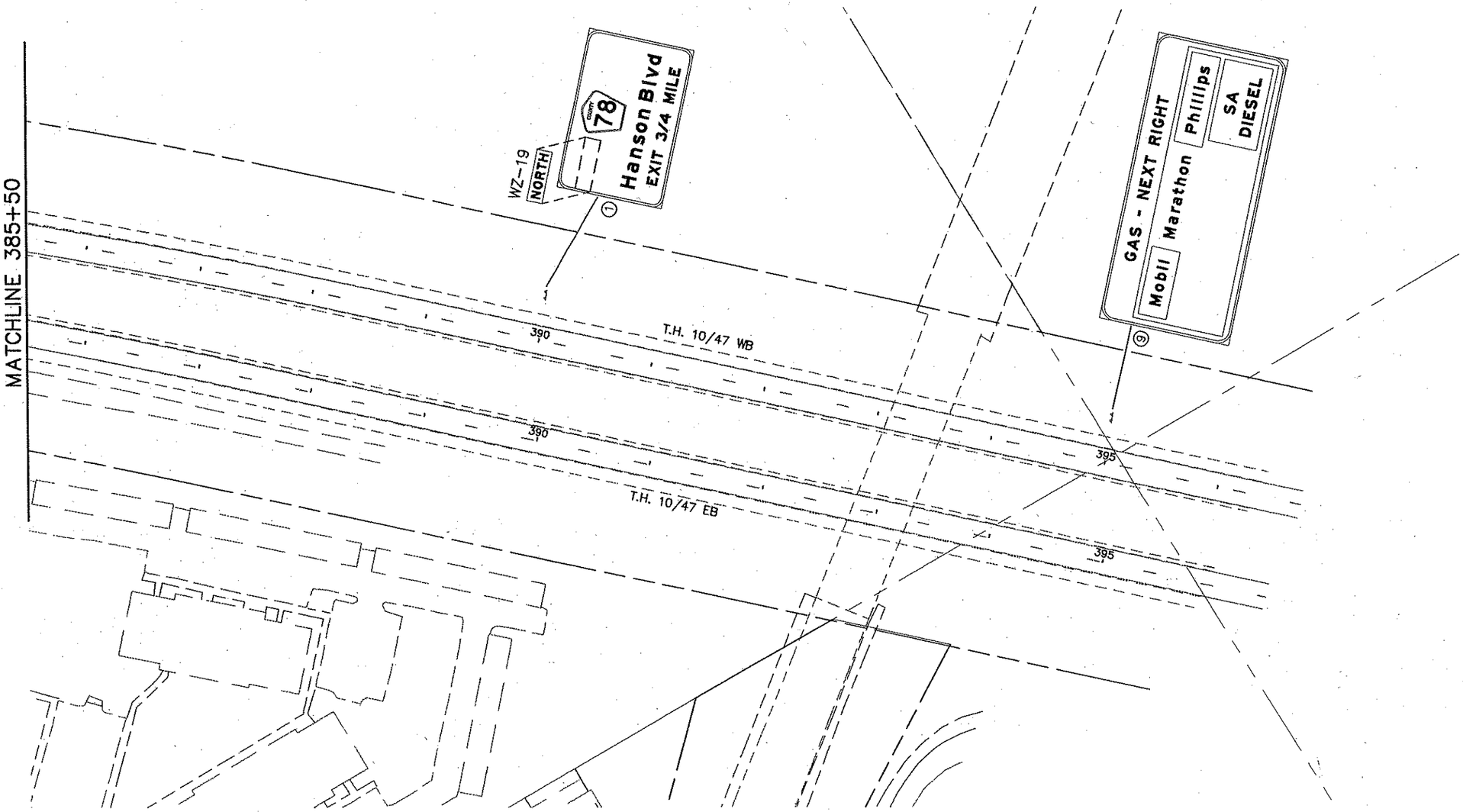
TH 10/HANSON BOULEVARD INTERCHANGE

TRAFFIC CONTROL

MODIFY INPLACE SIGNS
STAGE 1 PHASE 1A
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 292 / 681



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

17 OF 113

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: MDSG04
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

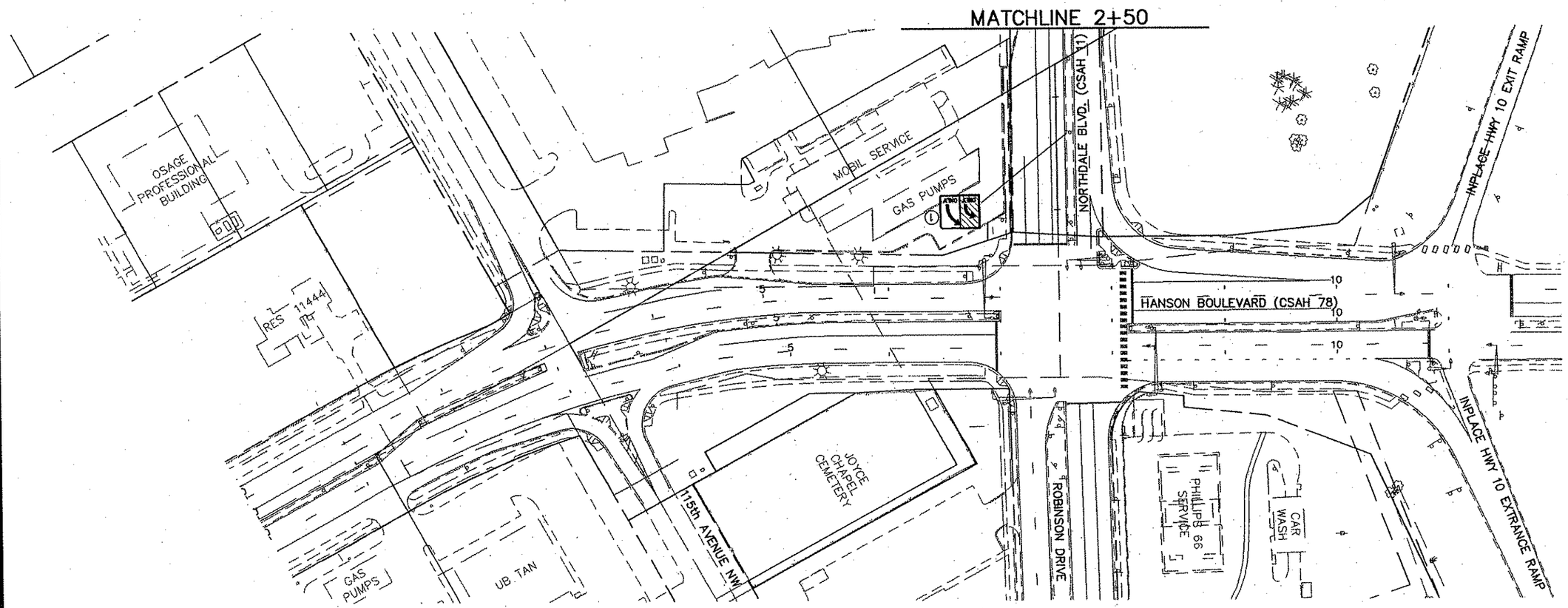
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
MODIFY INPLACE SIGNS
STAGE 1 PHASE 1A
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 293 / 681

PLOT DATE: Jan 0 7 12:25pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04 4.dwg

Xref'd Drawings
1-keel-sig
2TCNOTES
SGN-SIP1
-striping
SN-ETO
SN-ALI
F-DWG-BDR
SN-ESU
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: MDSG05
DATE: JANUARY 8, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

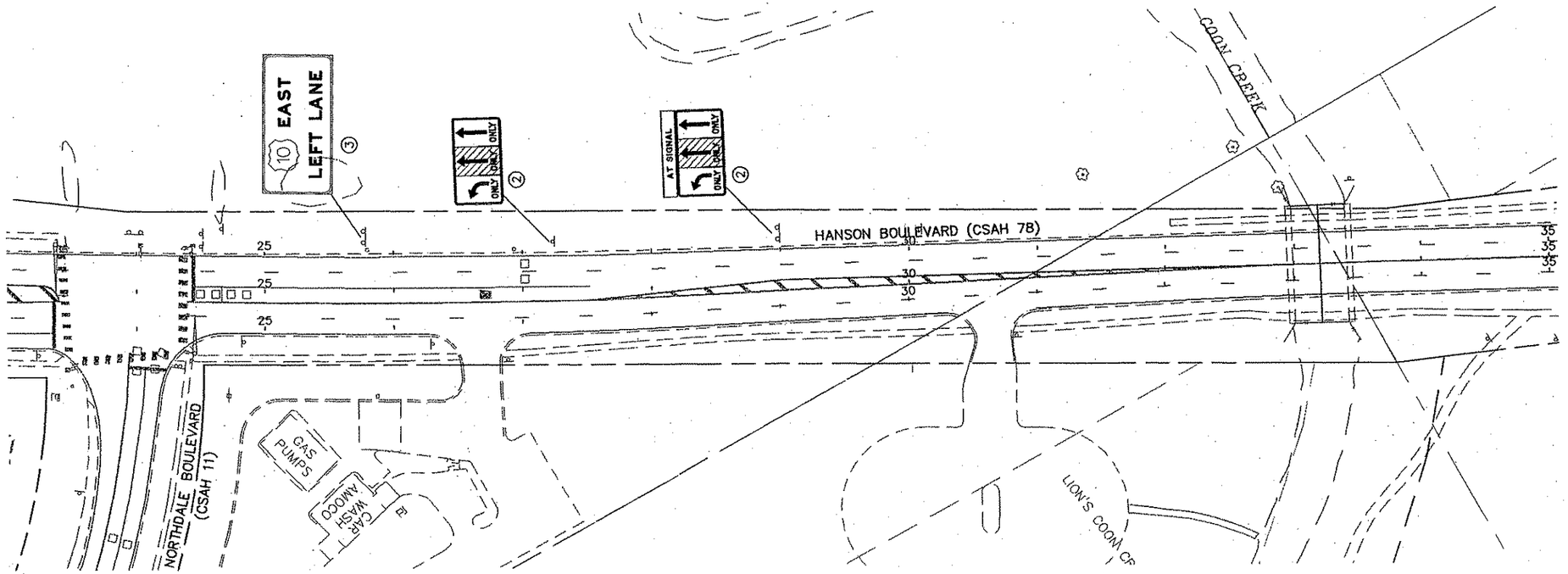
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
MODIFY INPLACE SIGNS
STAGE 1 PHASE 1A
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 294 / 681

PLOT DATE: Jan 0 / 12:25pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04-5.dwg

Xref'd Drawings
1-keel-sig
2TCNOTES
SGN-S1P1
-striping
SN-ETO
SN-ALI
F[illegible]-BDR



LEGEND

① INPLACE, USE INPLACE
② INPLACE, MODIFY MESSAGE
③ REMOVE OR COVER
④ SALVAGE
⑤ FURNISH AND INSTALL (F & I)
⑥ INSTALL
⑦ DETOUR SIGNING
⑧ MASK CONFLICTING PAVEMENT MARKINGS
⑨ CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
⑩ SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

NORTH

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: MDSG06
DATE: JANUARY 8, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

TRAFFIC CONTROL

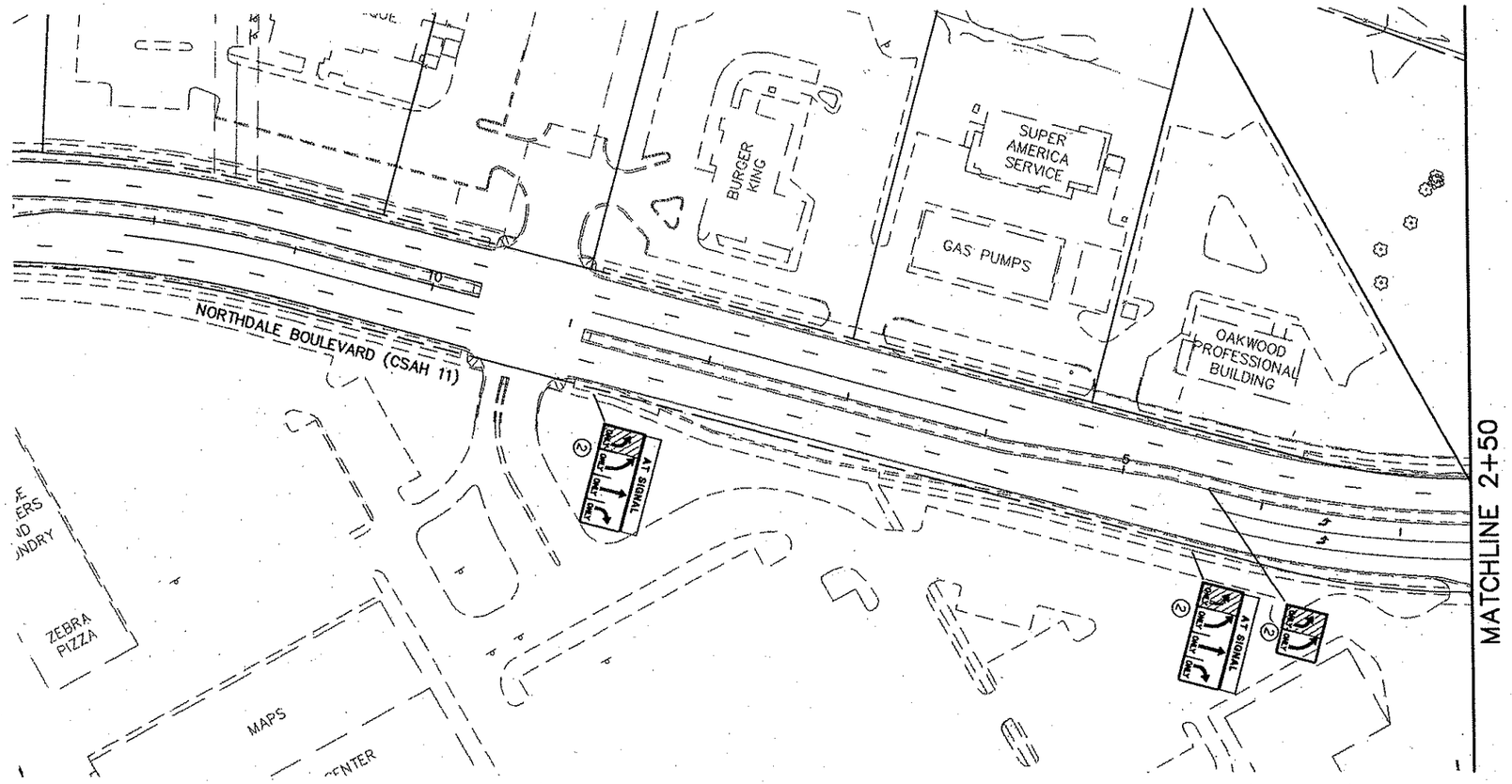
MODIFY INPLACE SIGNS
STAGE 1 PHASE 1A
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 295 / 681

PLOT DATE: Jan 6 7 12:25pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04[illegible]6.dwg

Xref'd Drawings
rl-keel-slg
2TCNOTES
SGN-SIP1
-striping
ISN-ETC
ISN-ALI
F-DWG-BDR
ISN-ESU
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: MDSG07
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

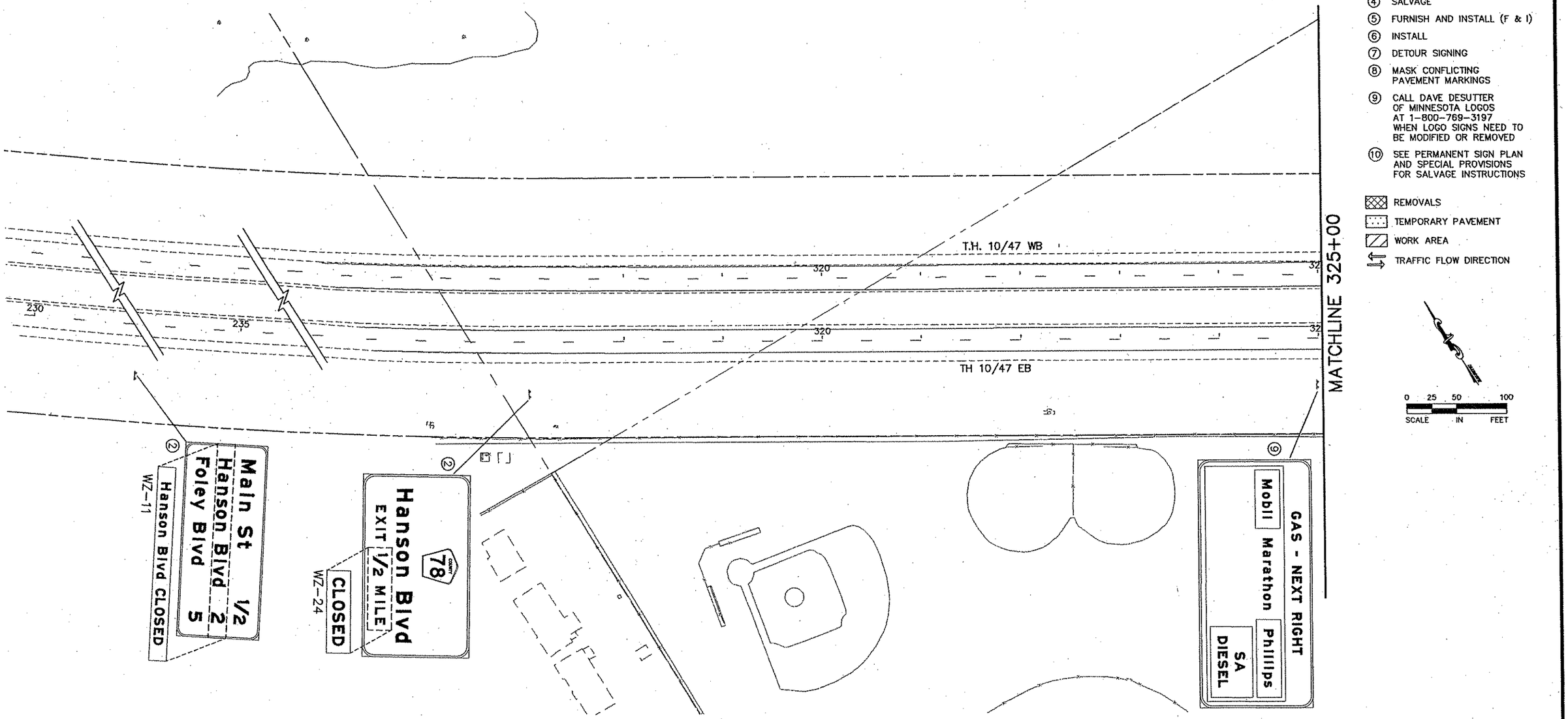
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
MODIFY INPLACE SIGNS
STAGE 1 PHASE 1A
SOUTH NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 296 / 681

PLOT DATE: Jan 6 7 12:25pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04 97.dwg

Xref'd Drawings
rl-keel-sig
2TCNOTES
SGN-S1P2
-striping
ISN-ETO
ISN-AU
BDR



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: MDSG08
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

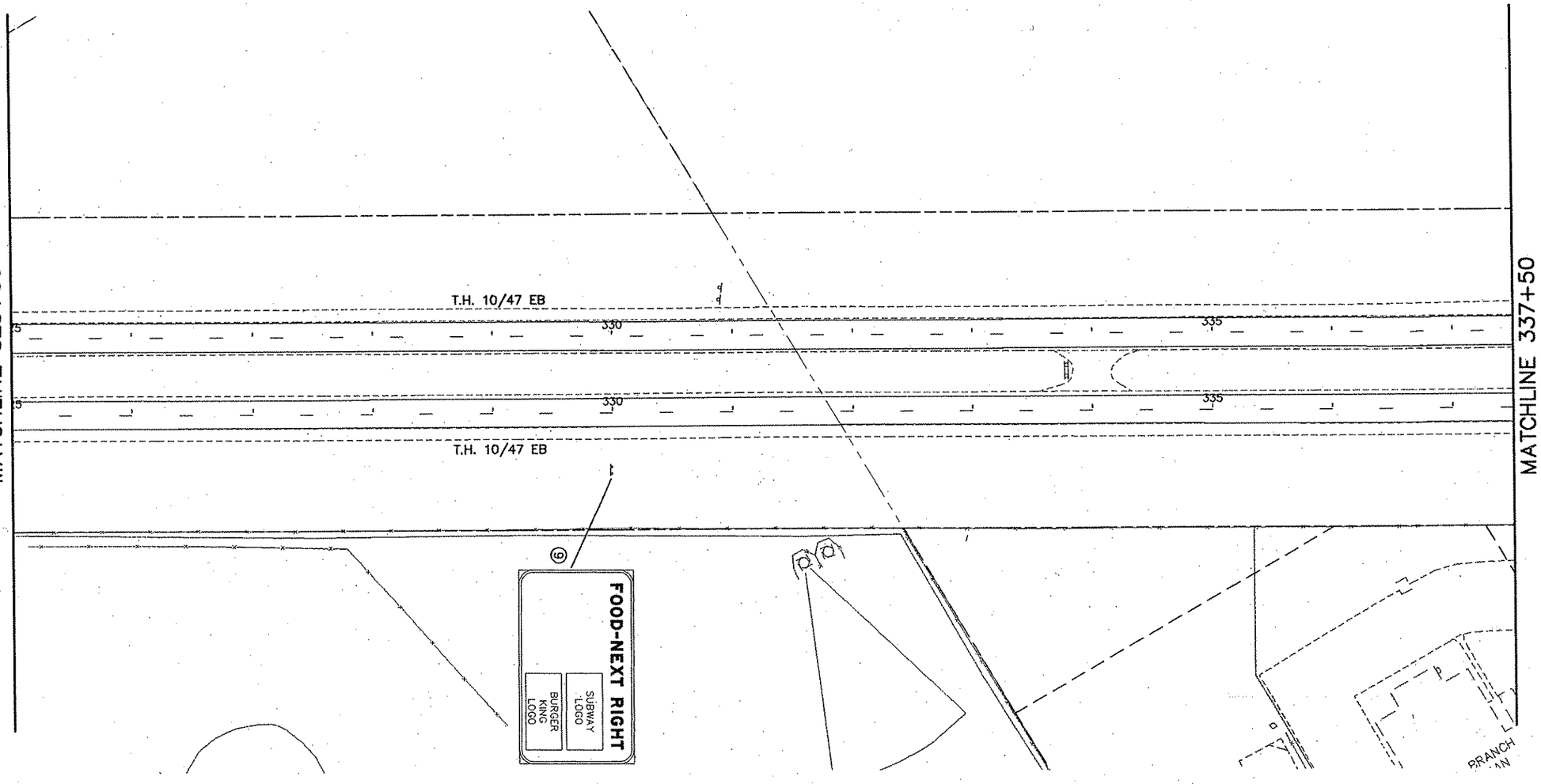
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
MODIFY INPLACE SIGNS
STAGE 1 PHASE 2
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 297 / 681

PLOT DATE: Jan 07 12:25pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04-38.dwg

Xref'd Drawings
-l-keel-sig
2TCNOTES
SGN-STP2
-striping
SN-ETC
SN-ALJ
F-DWG-BDR
SN-ESU
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: MDSG09
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

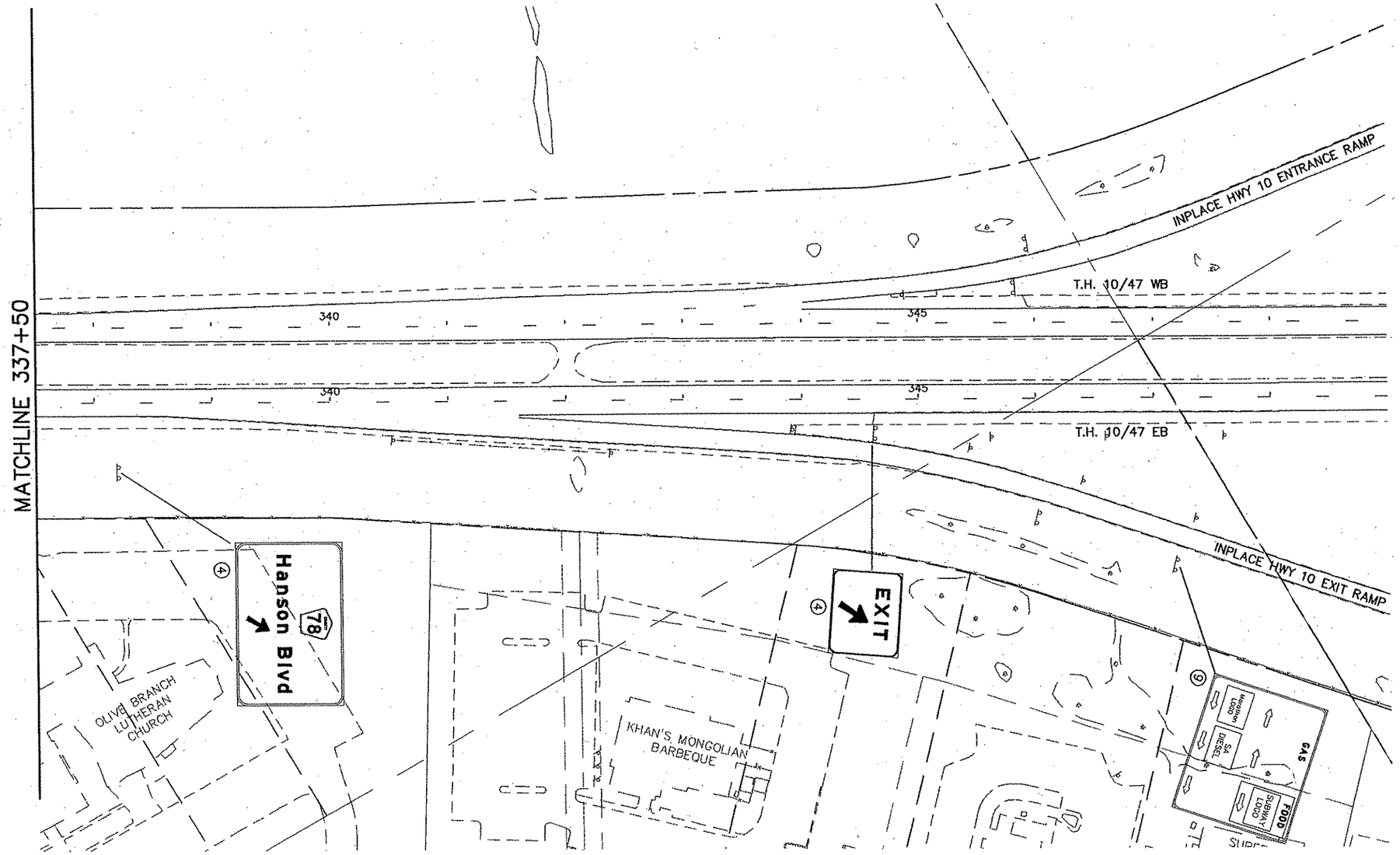
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
MODIFY INPLACE SIGNS
STAGE 1 PHASE 2
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 298 / 681

PLOT DATE: Jan 17 12:25pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0-09.dwg

Xref'd Drawings
rl-keel-sig
2TCNOTES
SGN-S1P2
-striping
ISN-ETC
ISN-ALI
-BDR



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: MDSG10
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

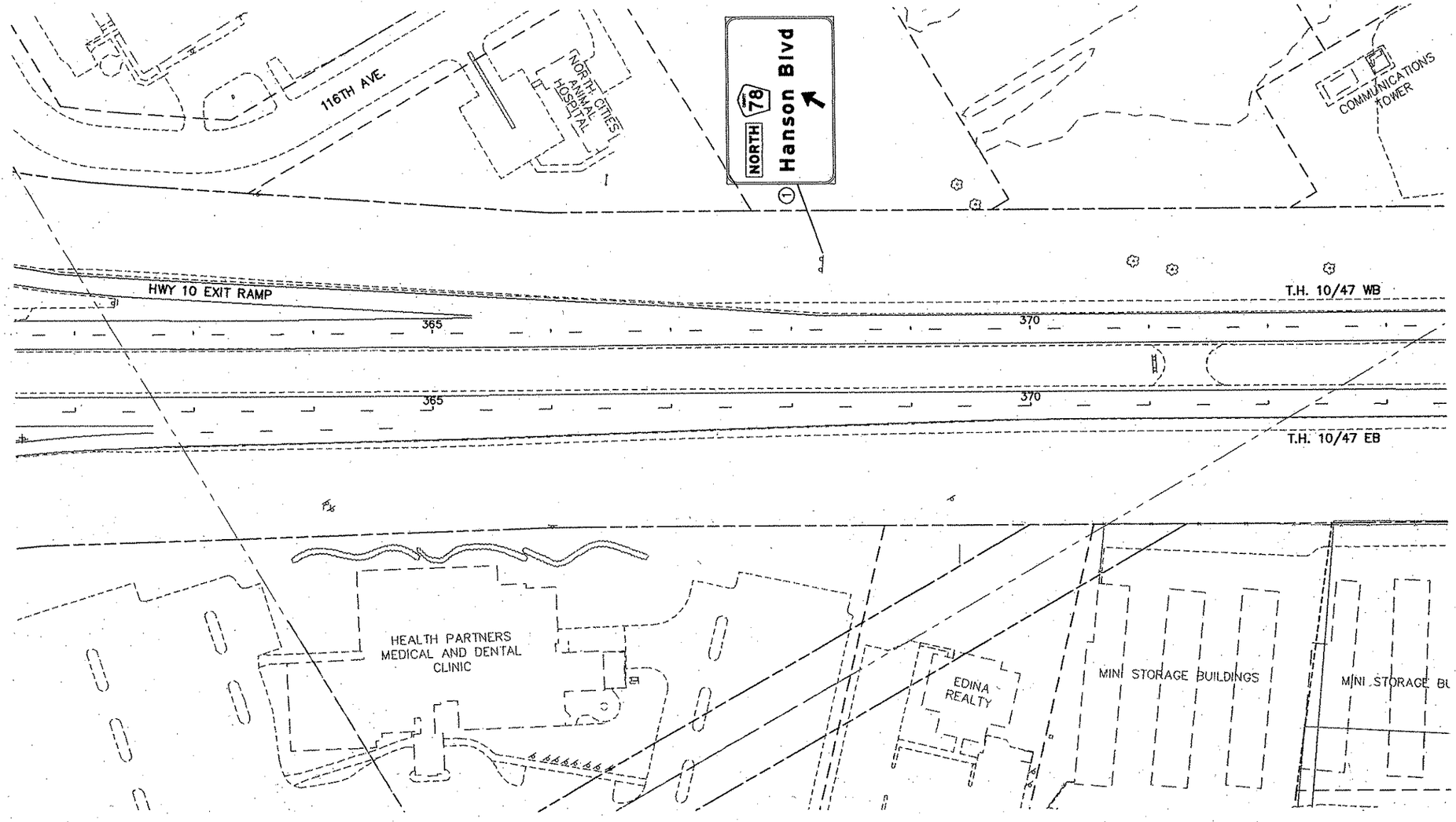
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
MODIFY INPLACE SIGNS
STAGE 1 PHASE 2
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 299 / 681

PLOT DATE: Jan 0 / 12:26pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04: 0.dwg

Xref's Drawings
rl-keel-sig
2TCNOTES
SGN-S1P2
-striping
ISN-ETO
ISN-ALJ
F-DWG-BDR
ISN-ESU
x34bdr



LEGEND

1. INPLACE, USE INPLACE
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REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: MDSG11
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

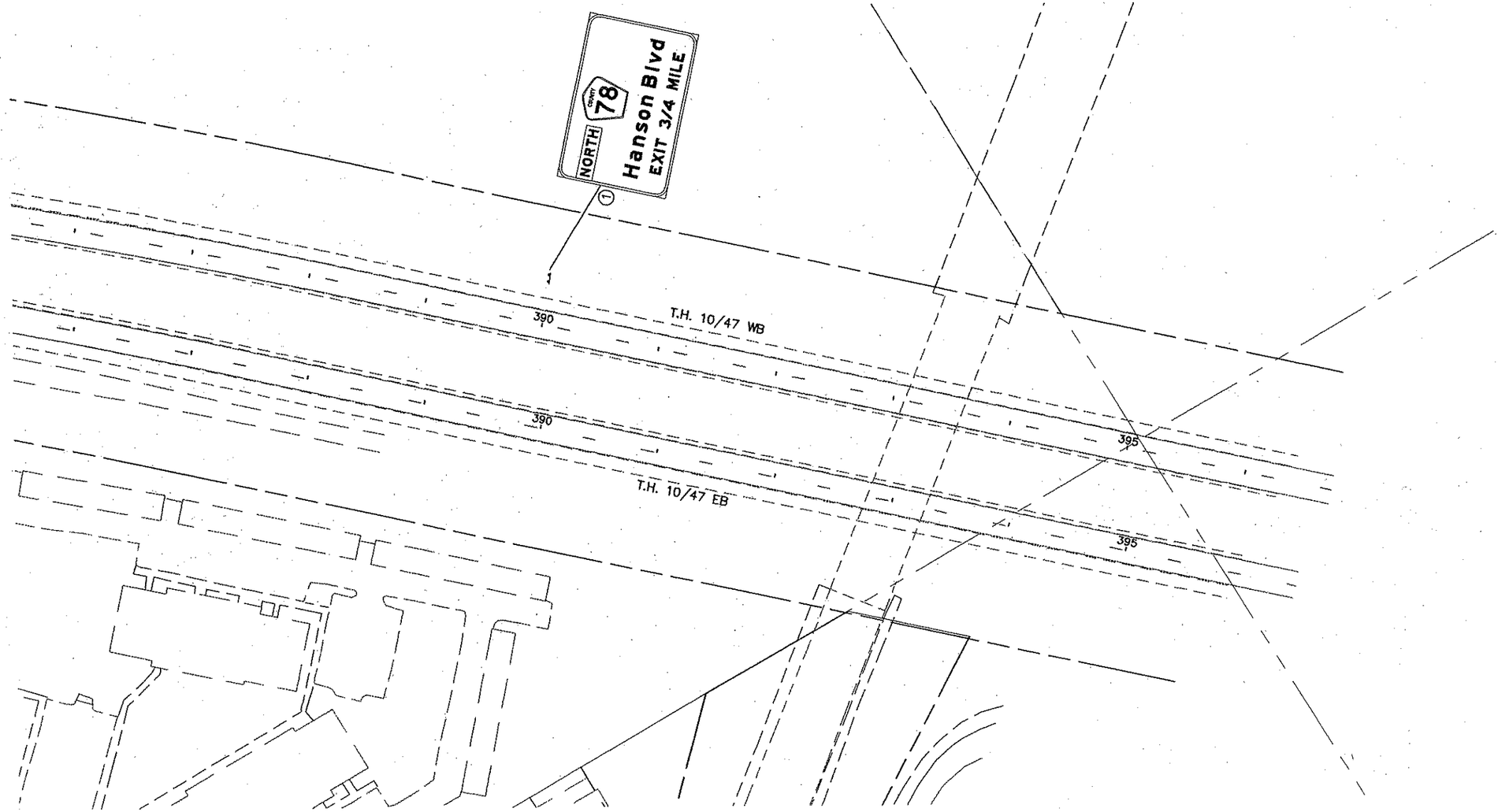
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
MODIFY INPLACE SIGNS
STAGE 1 PHASE 2
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 300 / 681

PLOT DATE: Jan 17 12:26pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 11.dwg

Xref'd Drawings
rl-keel-sig
2TCNOTES
SGN-STP2
-striping
ISN-ETO
ISN-ALJ
F -BDR



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
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REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: ELJ
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: MDSG12
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

TRAFFIC CONTROL

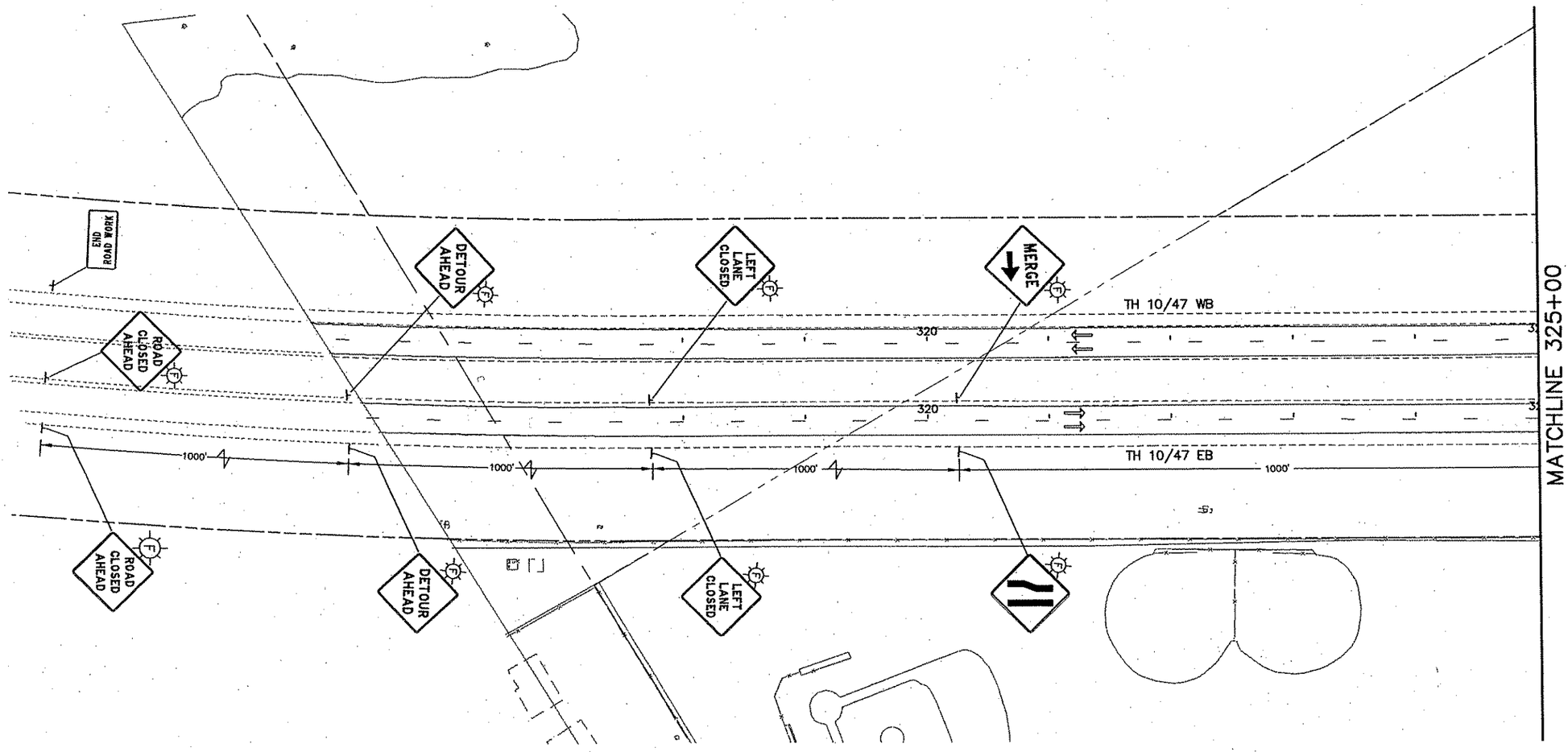
MODIFY INPLACE SIGNS
STAGE 1 PHASE 2
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 301 / 681

PLOT DATE: Jan 07 12:26pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04 2.dwg

Xref'd Drawings
rl-keel-sig
-WKENDSGN
-WKEND
2TCNOTES
-striping
ISN-ETC
ISN-ALI
F-DWG-BDR
ISN-ES
x34bc



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
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8. MASK CONFLICTING PAVEMENT MARKINGS
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10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC10
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

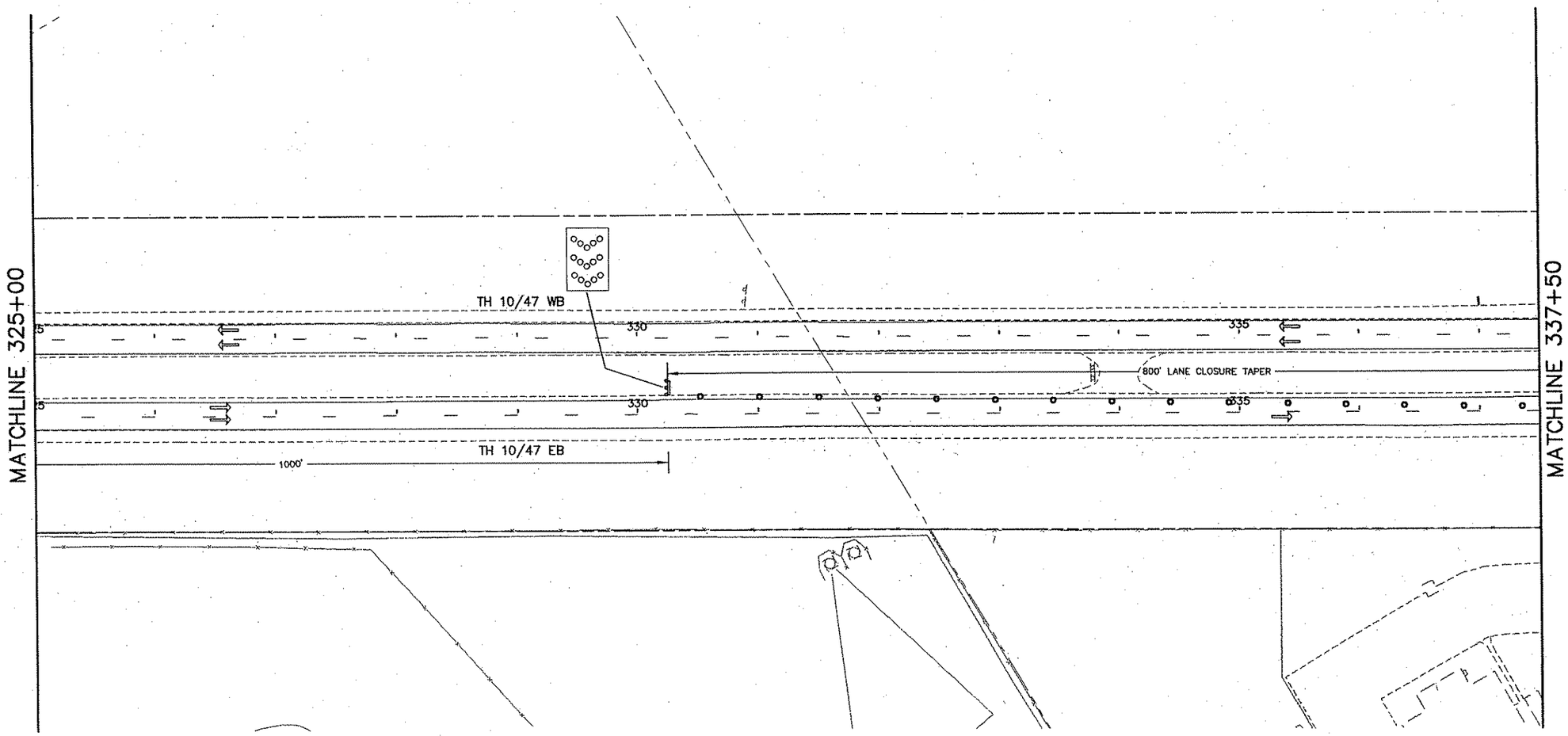
WEEKEND CLOSURE
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 302 / 681

PLOT DATE: Jan 0 7 12:27pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04

Xref'd Drawings
rl-keel-sig
-WKENDSGN
-WKEND
2TCNOTES
-striping
ISN-ETO
ISN-
-DR



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
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REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC11
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

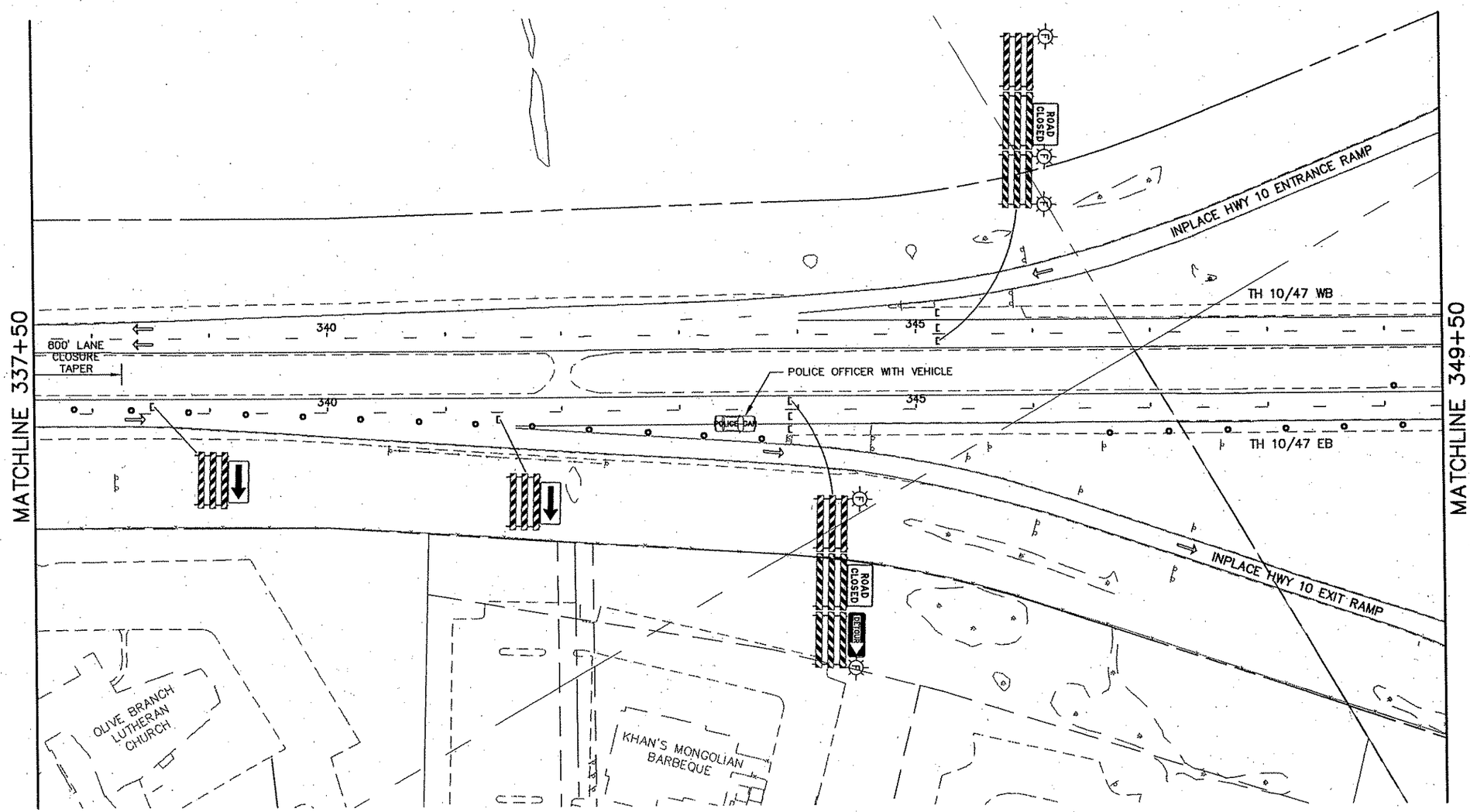
WEEKEND CLOSURE
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 303 / 681

PLOT DATE: Jan 07 12:28pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04.dwg

Xref'd Drawings
d-keel-sig
-WKENDSON
-WKEND
2TCNOTES
-striping
ISN-ETO
ISN-ALI
F-DWG-BDR
ISN-ES
x34bd



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
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7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
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10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC12
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

WEEKEND CLOSURE
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 304 / 681

PLOT DATE: Jan 6 7 12:29pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04

Xref'd Drawings
rl-keel-sig
-WKENDSGN
-WKEND
2TCNOTES
-sirlplng
ISN-ETO
ISN-
BDR

SEE STAGE 1 PHASE 1A FOR
HANSON BOULEVARD TRAFFIC CONTROL

INPLACE HWY 10 ENTRANCE RAMP

EXISTING SIGNAL
TURN ON FLASH

POLICE OFFICER
WITH VEHICLE

METRO
MOLDED
PARTS

JAY STREET

INPLACE HWY 10 EXIT RAMP

WEEKEND
CLOSURE
AT
10 78
Hanson Blvd
MARCH XX - XX

* WZ-20

BRIDGE
CLOSED

WORK ENDS
NOV 2005

BRIDGE
CLOSED
BEGINNING
MM/DD/YY

TH 10/47 WB

TH 10/47 EB

65 MPH IMPACT ATTENUATORS

MATCHLINE 349+50

MATCHLINE 361+50

350 355 360

SIDEWALK
CLOSED

POLICE CAR

EXISTING SIGNAL
TURN ON FLASH

SEE STAGE 1 PHASE 1A FOR
HANSON BOULEVARD TRAFFIC CONTROL

* INSTALL 7 DAYS PRIOR TO CONSTRUCTION

LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
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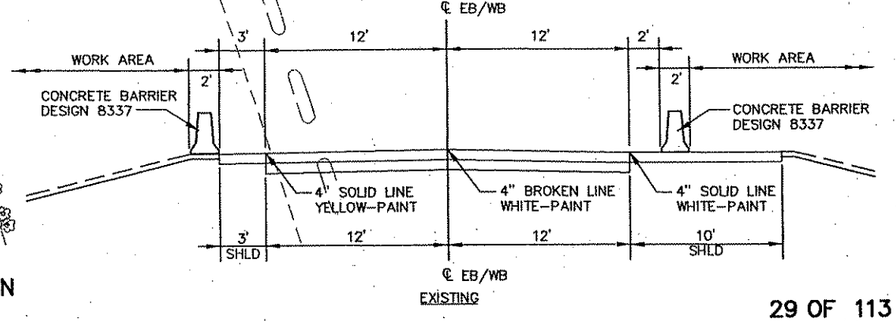
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 1A

PROPOSED



EXISTING

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC13
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19881

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

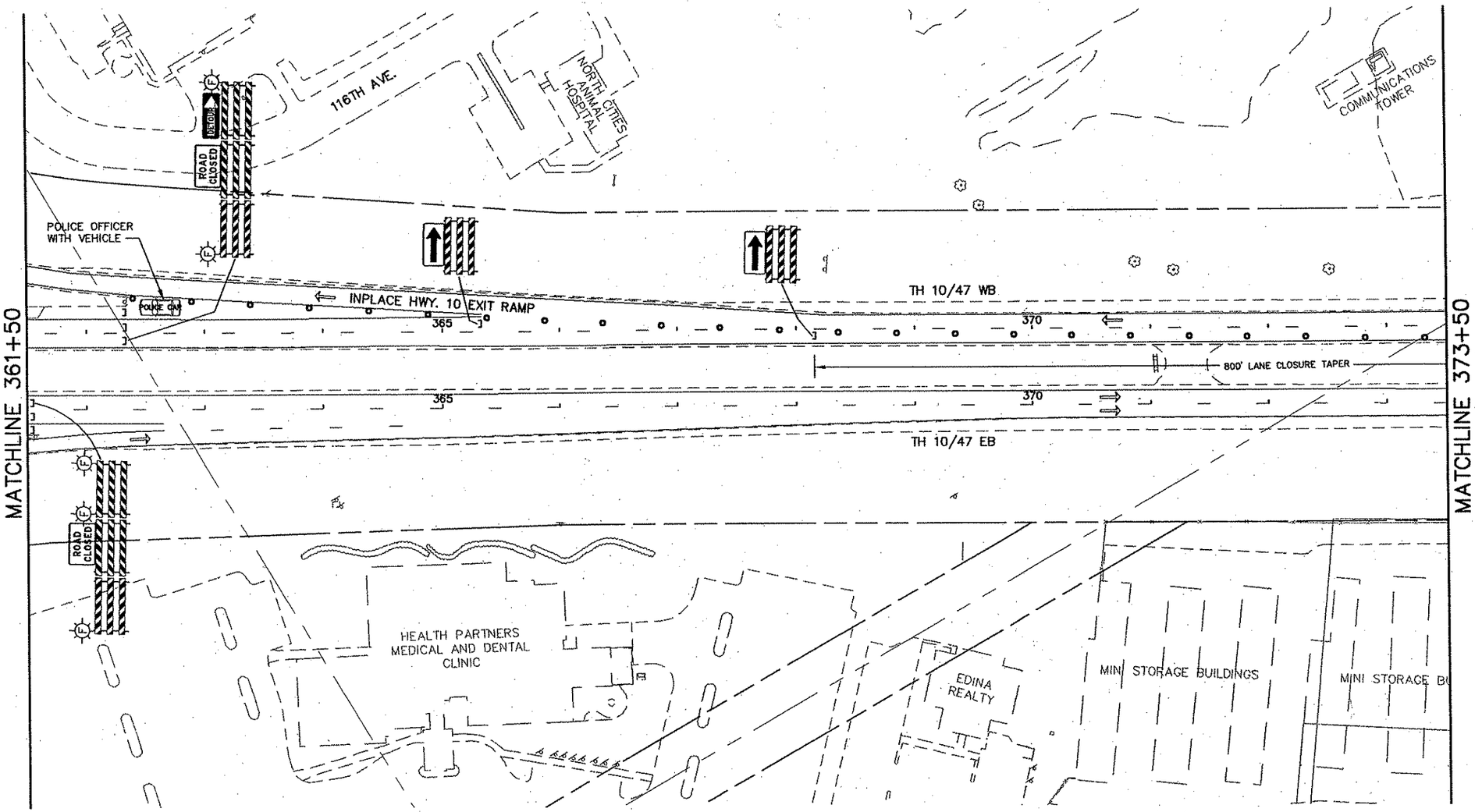
WEEKEND CLOSURE
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 305 / 681

PLOT DATE: Jan 07 12:29pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04.dwg

Xref'd Drawings
rl-keel-sig
-WKENDSGN
-WKEND
2TCNOTES
-striping
ISN-ETO
ISN-ALJ
F-DWG-BDR
ISN-ES
x34bd



LEGEND

1. INPLACE, USE INPLACE
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10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

30 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC14
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

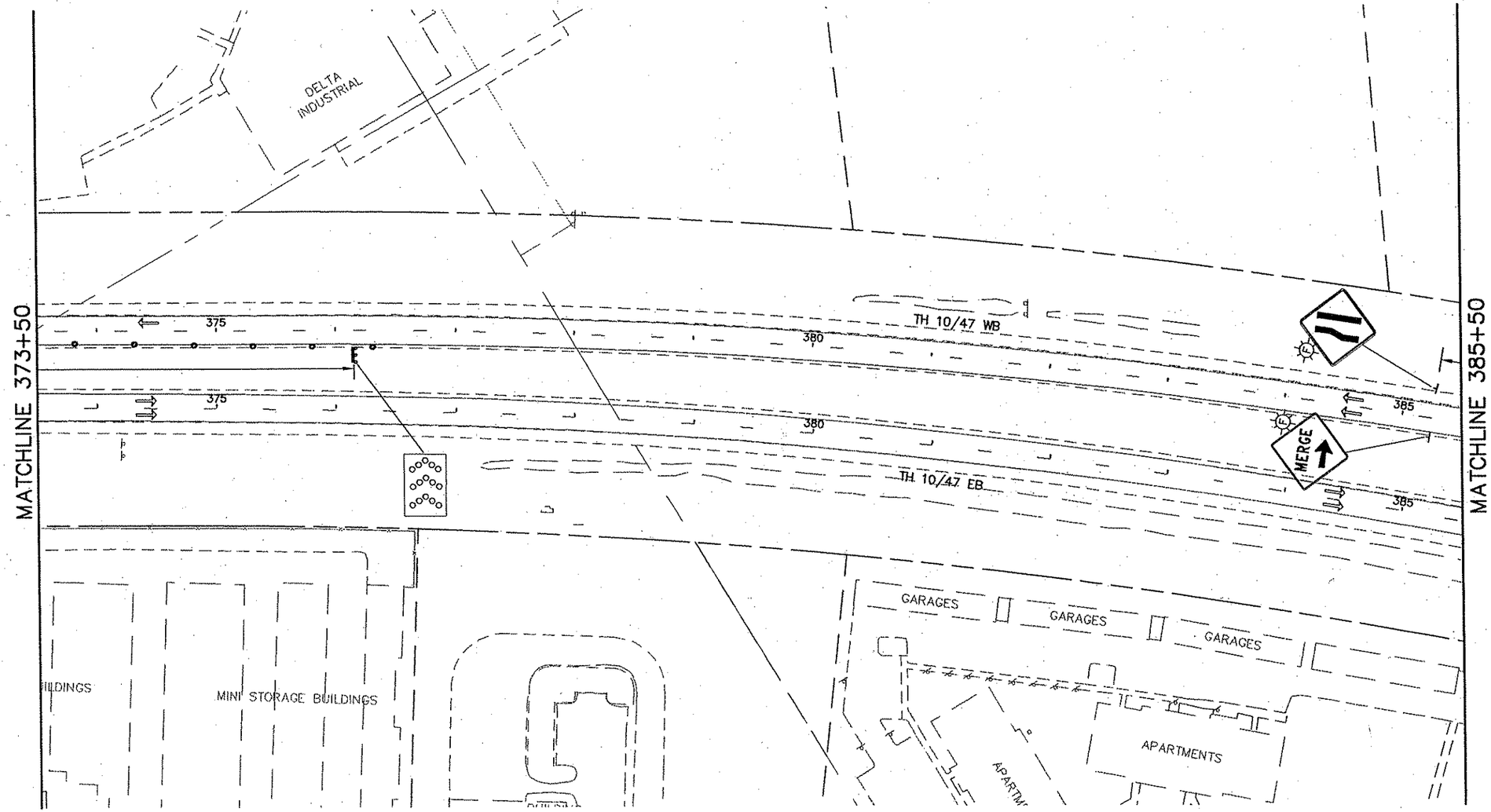
WEEKEND CLOSURE
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 306 / 681

PLOT DATE: Jan 0 12:29pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04 .dwg

Xref'd Drawings
rl-keel-sig
-WKENDSGN
-WKEND
2TCNOTES
-striping
ISN-ETO



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
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10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC15
DATE: JANUARY 8, 2006

URS
Threshar Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

WEEKEND CLOSURE
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 307 / 681

PLOT DATE: Jan 0, 12:29pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\042

Xref'd Drawings
rl-keel-sig
-WKENDSGN
-WKEND
-striping
2TCNOTES
ISN-ETO
ISN-ALJ
F-DWG-BDR
ISN-ES
x34bc

MATCHLINE 385+50

1000'
390
TH 10/47 WB
390
TH 10/47 EB
395
1000'
1000'
395
395

LEFT LANE CLOSED
DETOUR AHEAD
ROAD CLOSED AHEAD
LEFT LANE CLOSED
DETOUR AHEAD
ROAD CLOSED AHEAD
END ROAD WORK

LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC16
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

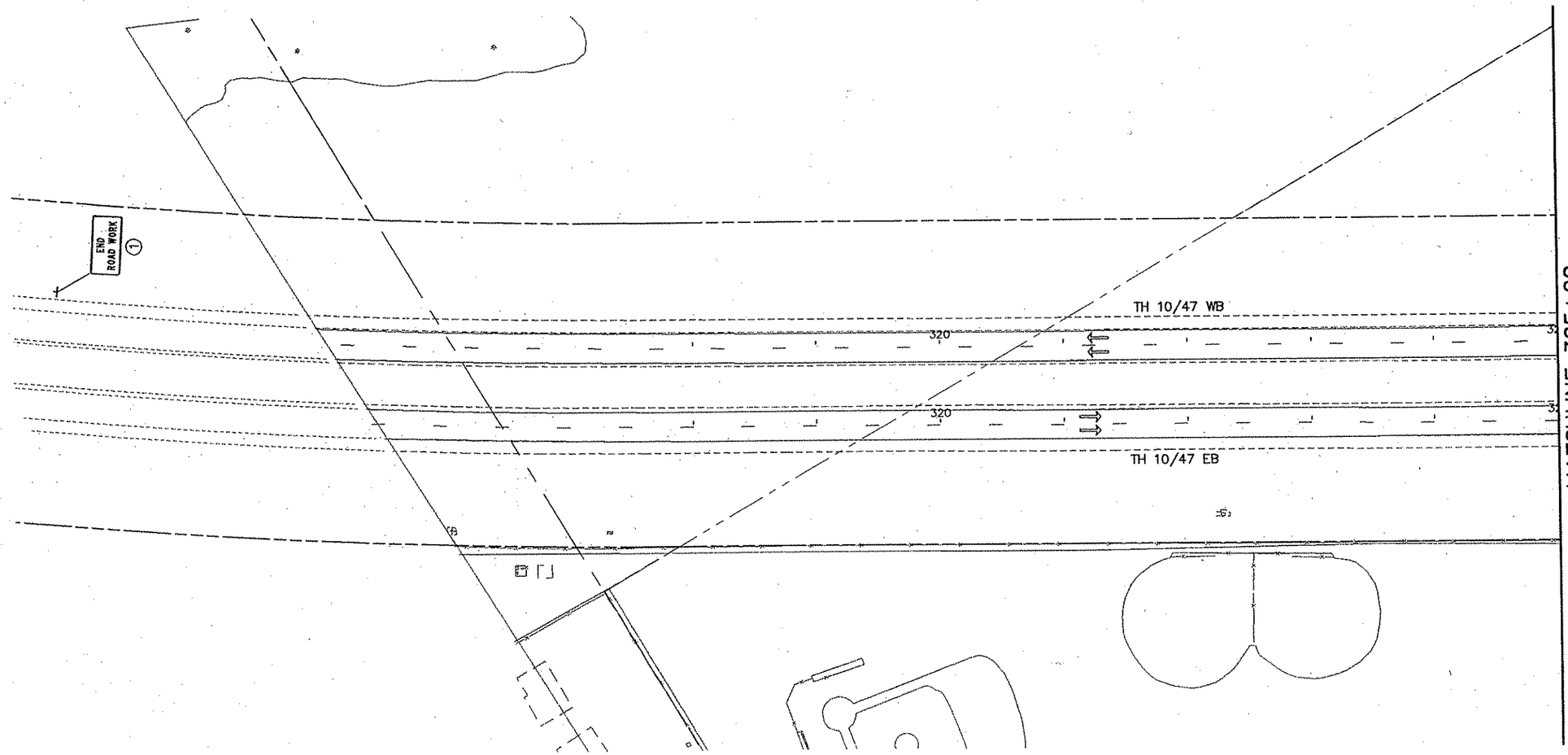
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
WEEKEND CLOSURE
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 308

PLOT DATE: Jan 07 12:29pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.04

Xref'd Drawings
-i-keel-sig
-S1P1SGN
-S1P1
2TCNOTES
-striping
ISN-
IS
I
IS
x34bg



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC27
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 1A
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 309 / 681

PLOT DATE: Jan 01 / 12:29pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04

Xref'd Drawings
rl-keel-sig
-S1P1SGN
-S1P1
2TCNOTES
-striping
ISN-ETC
ISN-ALI
F-DWG-BDR
ISN-ES
x34bc

MATCHLINE 325+00

TH 10/47 WB

330

335

ROAD WORK AHEAD

NO SHOULDER

TH 10/47 EB

ROAD WORK AHEAD

NO SHOULDER

MATCHLINE 337+50

LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
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REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC28
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 1A
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 310 / 681

PLOT DATE: Jan 0[illegible] 12:30pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\04[illegible].dwg

Xref'd Drawings
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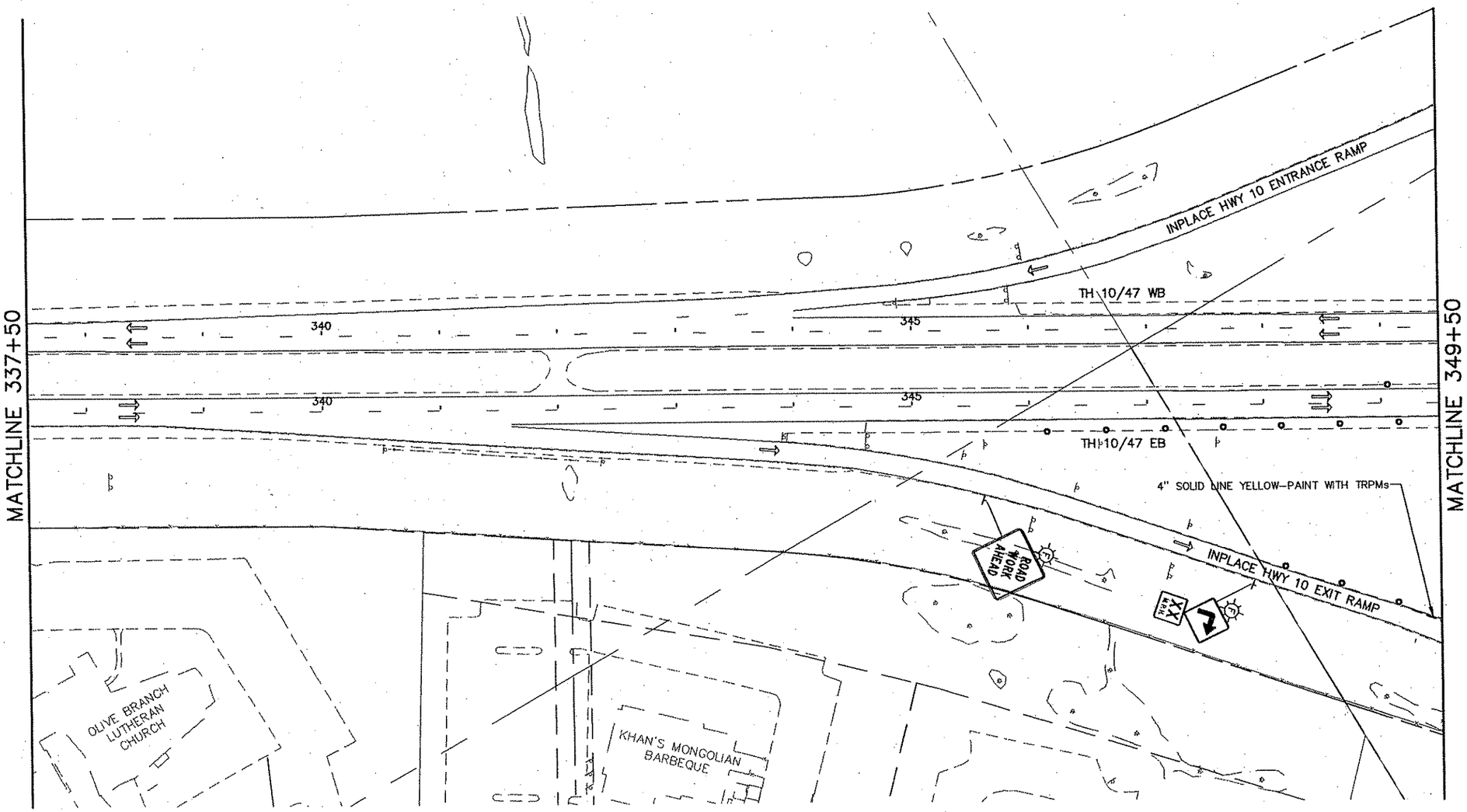
-S1P1
2TCNOTES
-striping
SN-ETC
SI
F
S
X3



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC29
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

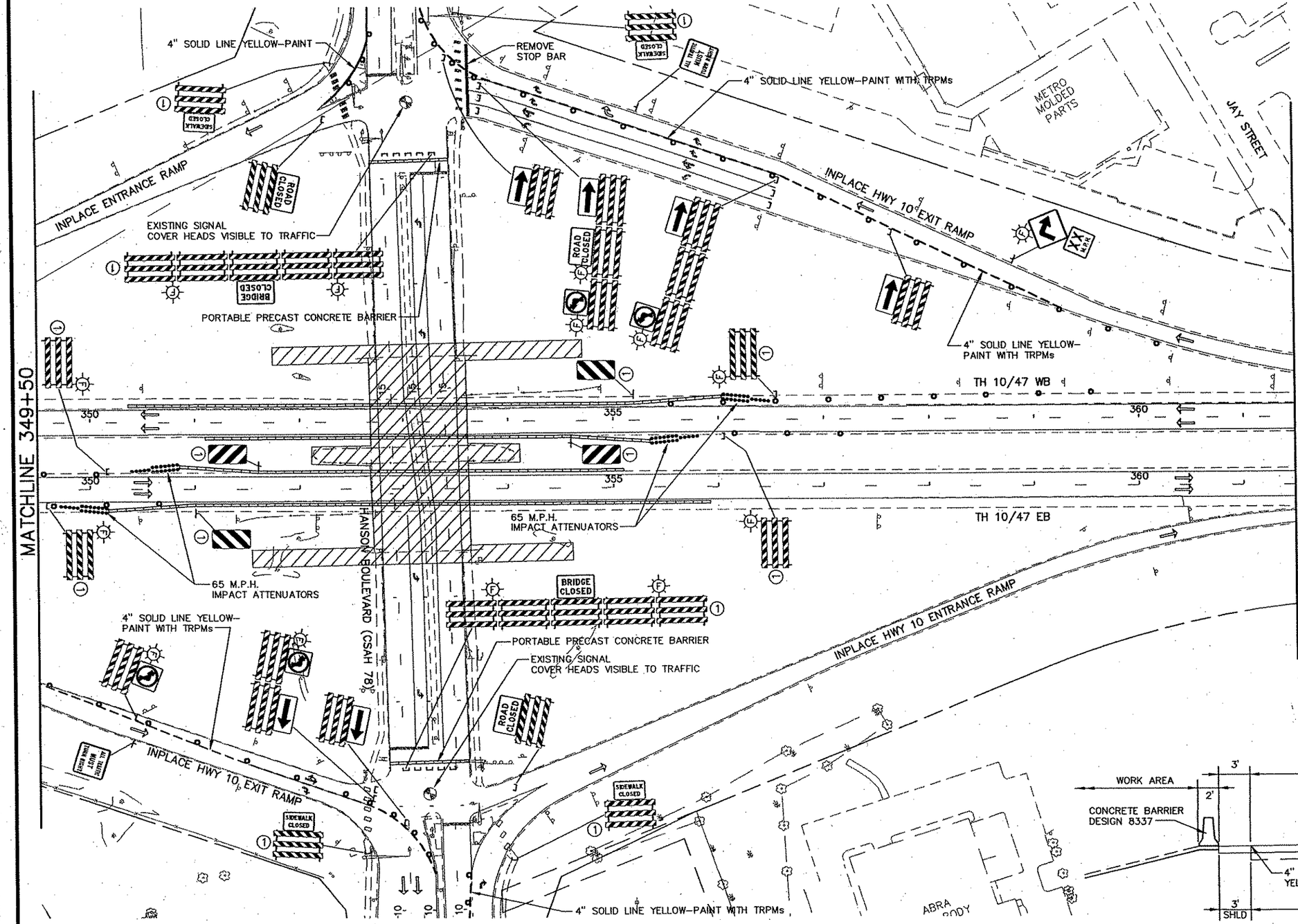
STAGE 1 PHASE 1A
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 311 / 681

PLOT DATE: Jan 0[illegible] / 12:30pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1\04[illegible].dwg

Xref'd Drawings
1-keel-sig
-S1P1SGN
-S1P1
2TCNOTES
-striping
ISN-ETG
ISN-ALJ
F-DWG-BDR
ISN-ESU
x34bdr



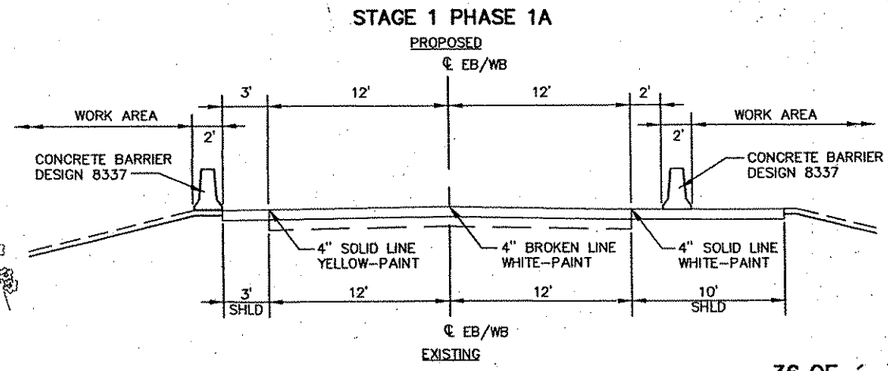
LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

STAGE 1 PHASE 1A



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: IKR/ELJ	DESIGN BY: JRM
CHKED. BY: LOM	DWG. NAME: 042TC30
DATE:	JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 1A
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 312 / 681

PLOT DATE: Jan 07 12:30pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg

Xref'd Drawings
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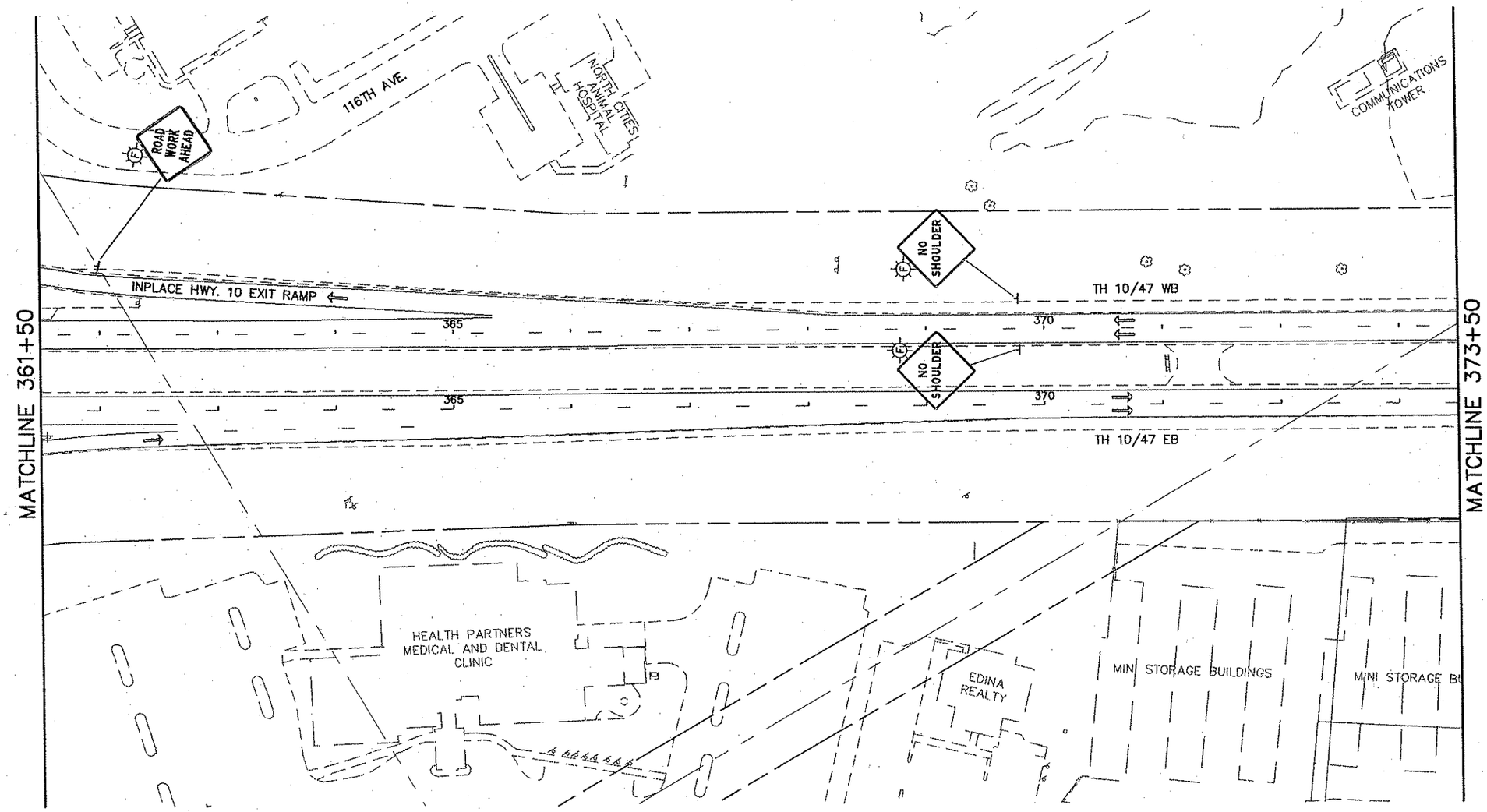
-S1P1
2TCNOTES
-striping
SN-ETO
SN-AU
F -BDR



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC31
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

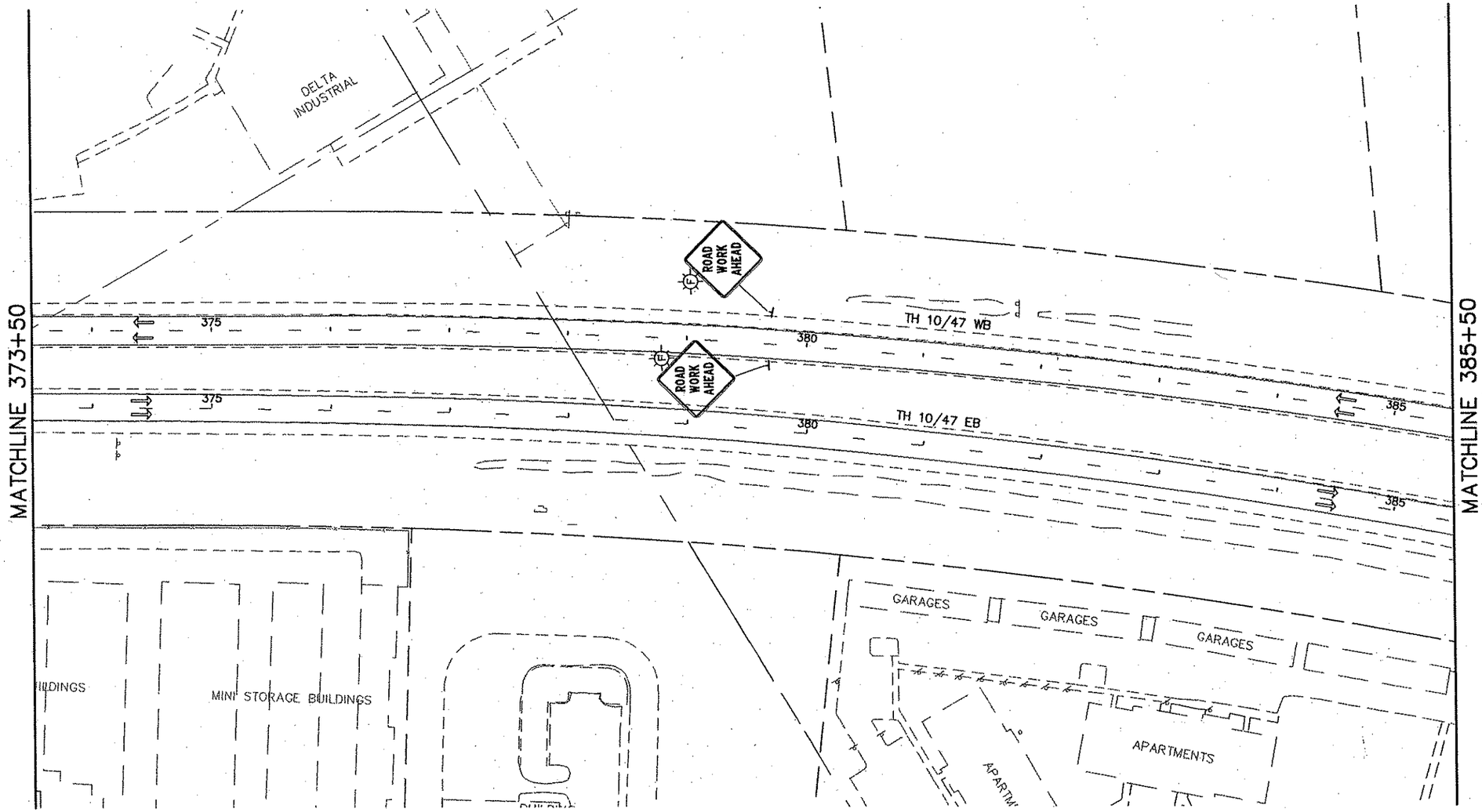
STAGE 1 PHASE 1A
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 313 / 681

PLOT DATE: Jan 07 12:30pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg

Xref'd Drawings
rl-keel-sig
-STP1SGN
-STP1
2TCNOTES
-striping
ISN-ETC
ISN-ALI
F-DWG-BDR
ISN-ESU
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

38 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC32
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 1A
T.H. 10/47

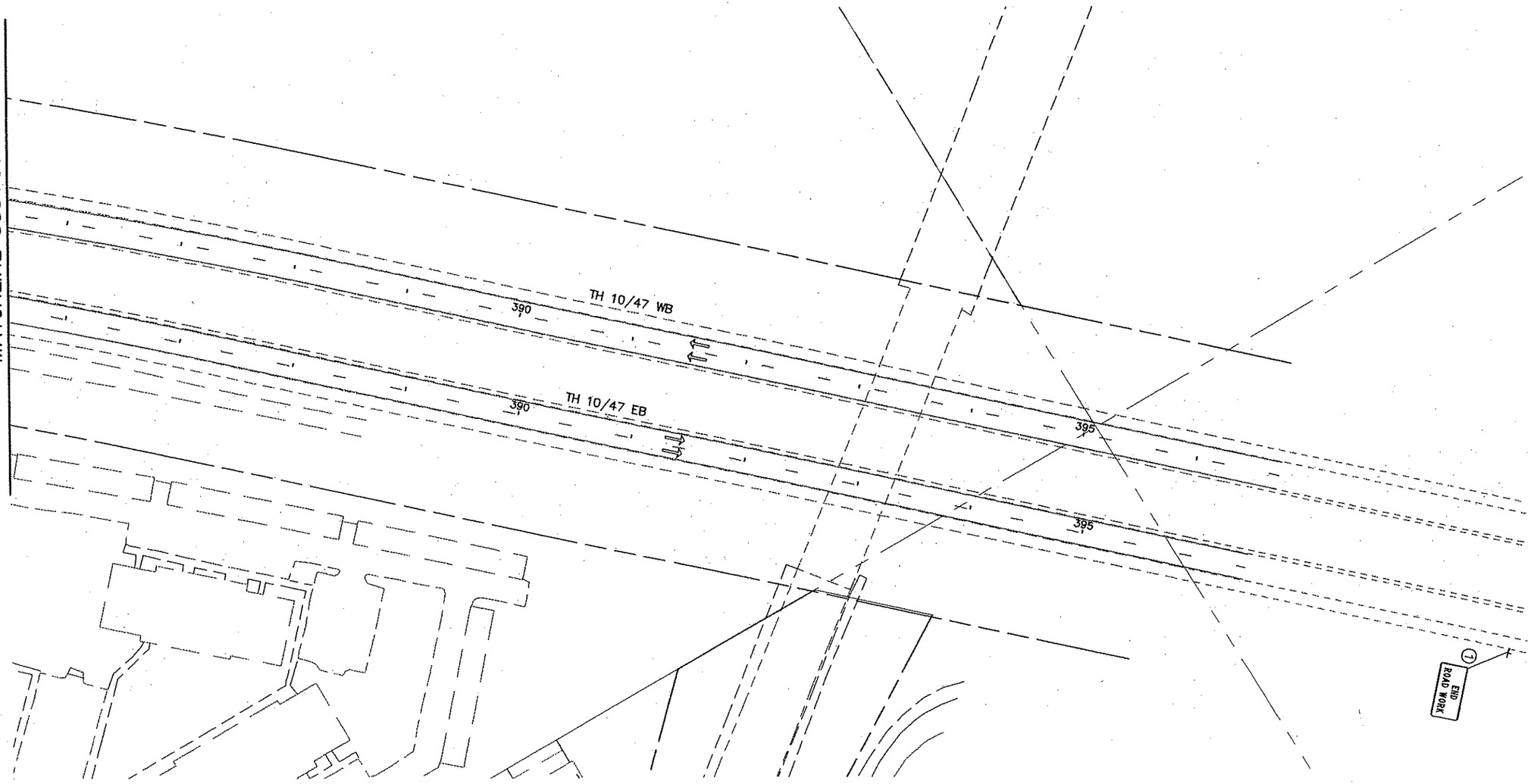
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 314 / 681

PLOT DATE: Jan. 307 12:30pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg

Xref'd Drawings
-keel-sig
-S1P1SGN
-S1P1
-striping
2TCNDTES
ISN-ETO
ISN-ALJ
F-[illegible]-BDR
IS
x

MATCHLINE 385+50



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

- REMOVALS
- TEMPORARY PAVEMENT
- WORK AREA
- TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC33
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

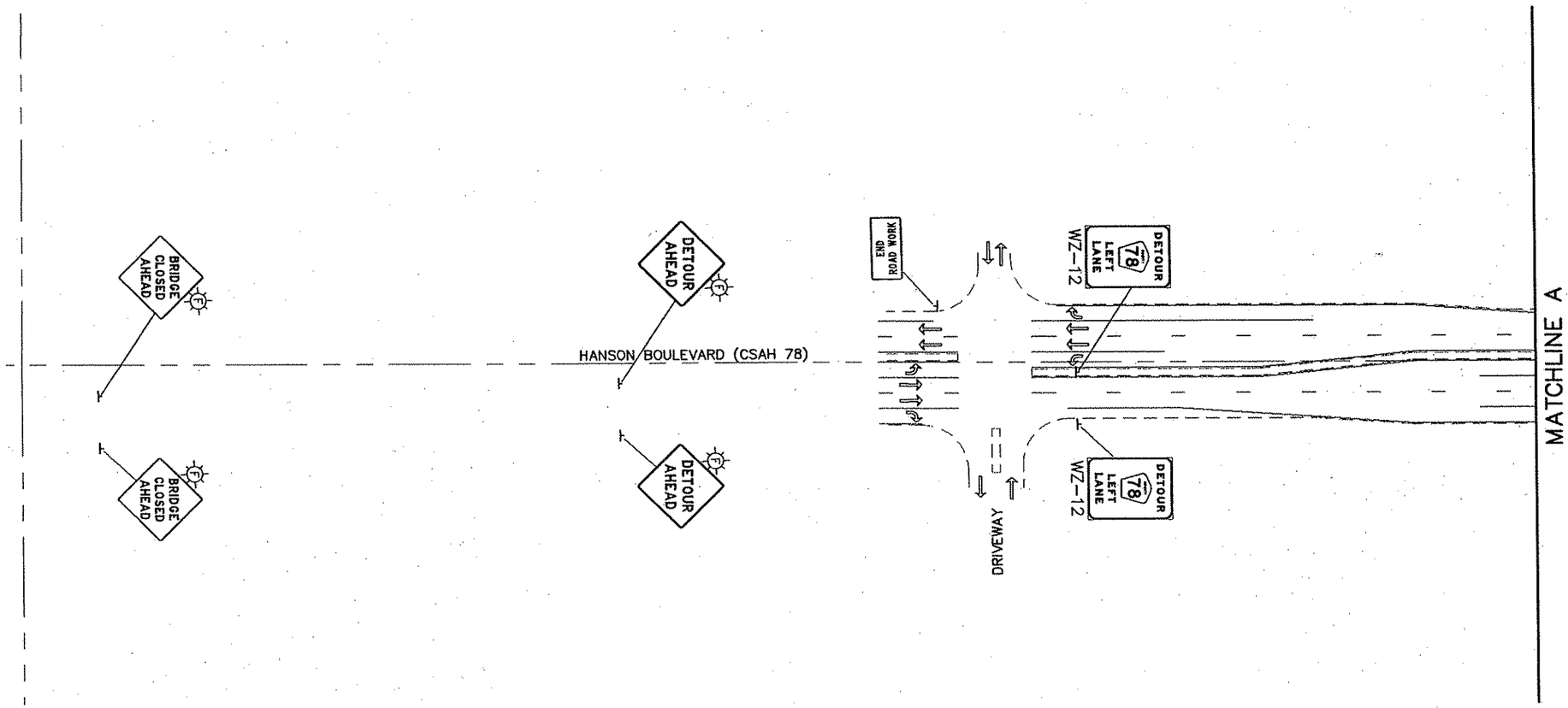
STAGE 1 PHASE 1A
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 315 / 681

PLOT DATE: Jan. 307 12:30pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\ .dwg

Xref'd Drawings
rl-keel-sig
-S1P1SGN
-S1P1
2TCNOTES
-striping
ISN-ETO
ISN-ALI
F-DWG-BDR
ISN-ESU
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
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10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

NORTH
0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC34
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19881

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

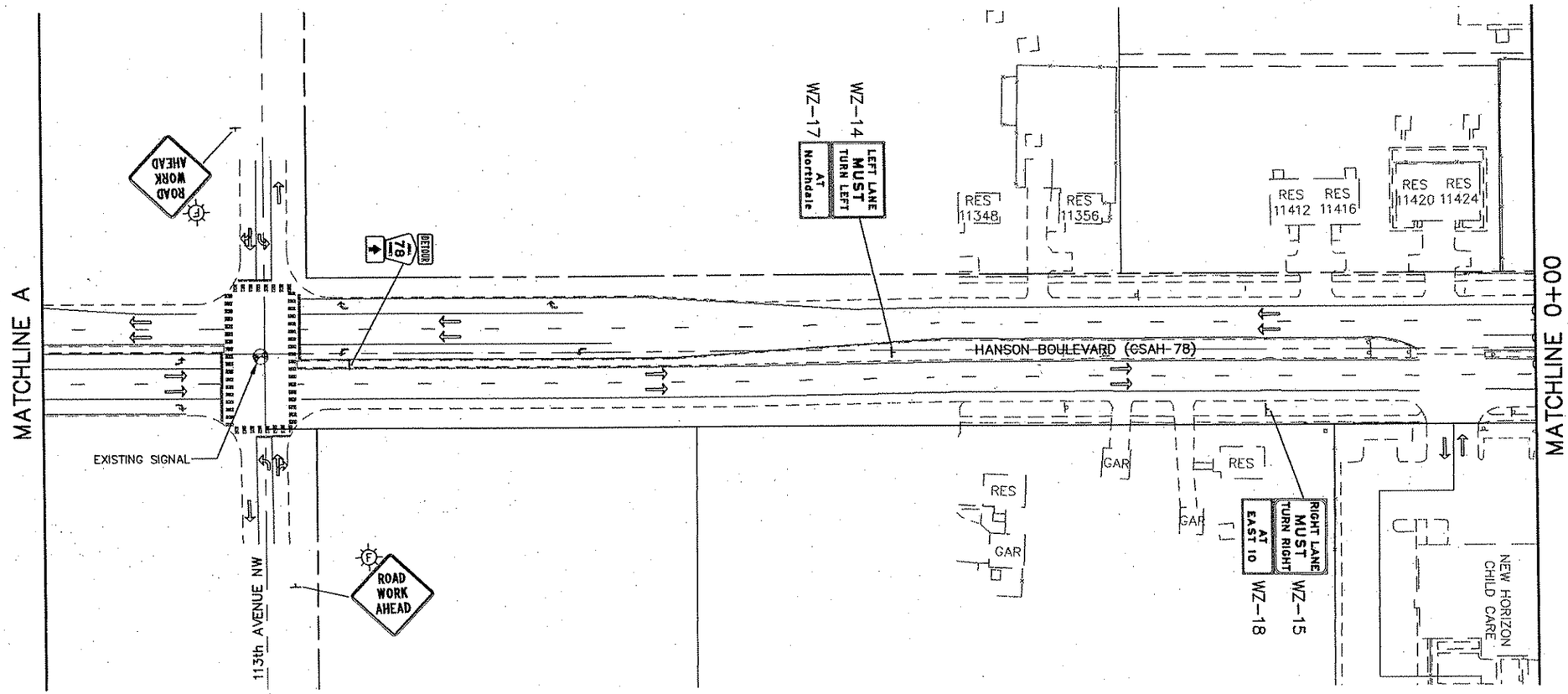
STAGE 1 PHASE 1A
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 316 / 681

PLOT DATE: Jan 007 12:30pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\ 4.dwg

Xref'd Drawings
-keel-sig
-S1P1SGN
-S1P1
2TCNOTES
-striping
ISN-E10
ISN-AU
F -BDR



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC35
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

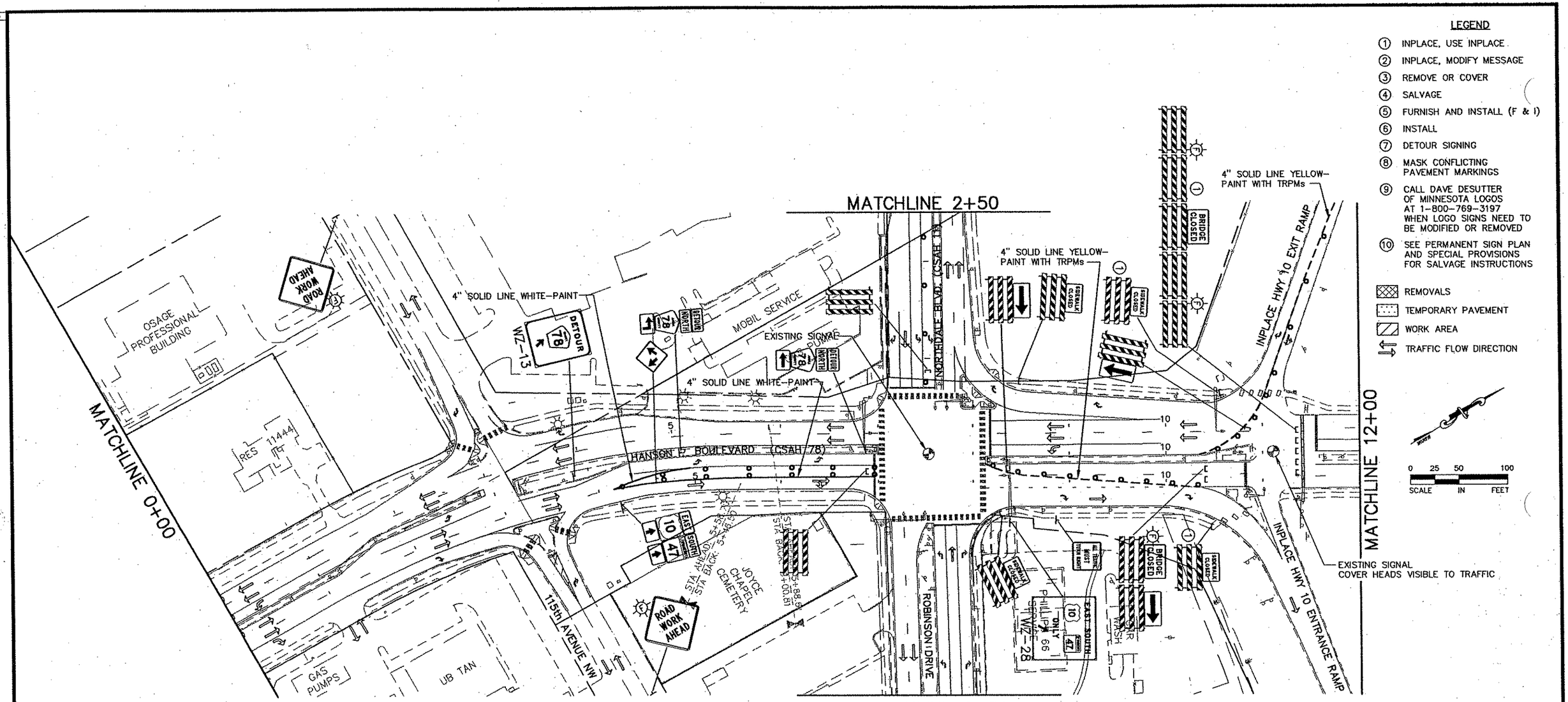
STAGE 1 PHASE 1A
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 317 / 681

PLOT DATE: Jan .007 12:30pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\ 5.dwg

Xref'd Drawings
f-keel-sig
-S1P1SGN
-S1P1
2TCNOTES
-striping
ISN-ETO
ISN-ALI
F-DWG-BDR
ISN-ESU
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

- REMOVALS
- TEMPORARY PAVEMENT
- WORK AREA
- TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

MATCHLINE 2+50

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC36
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

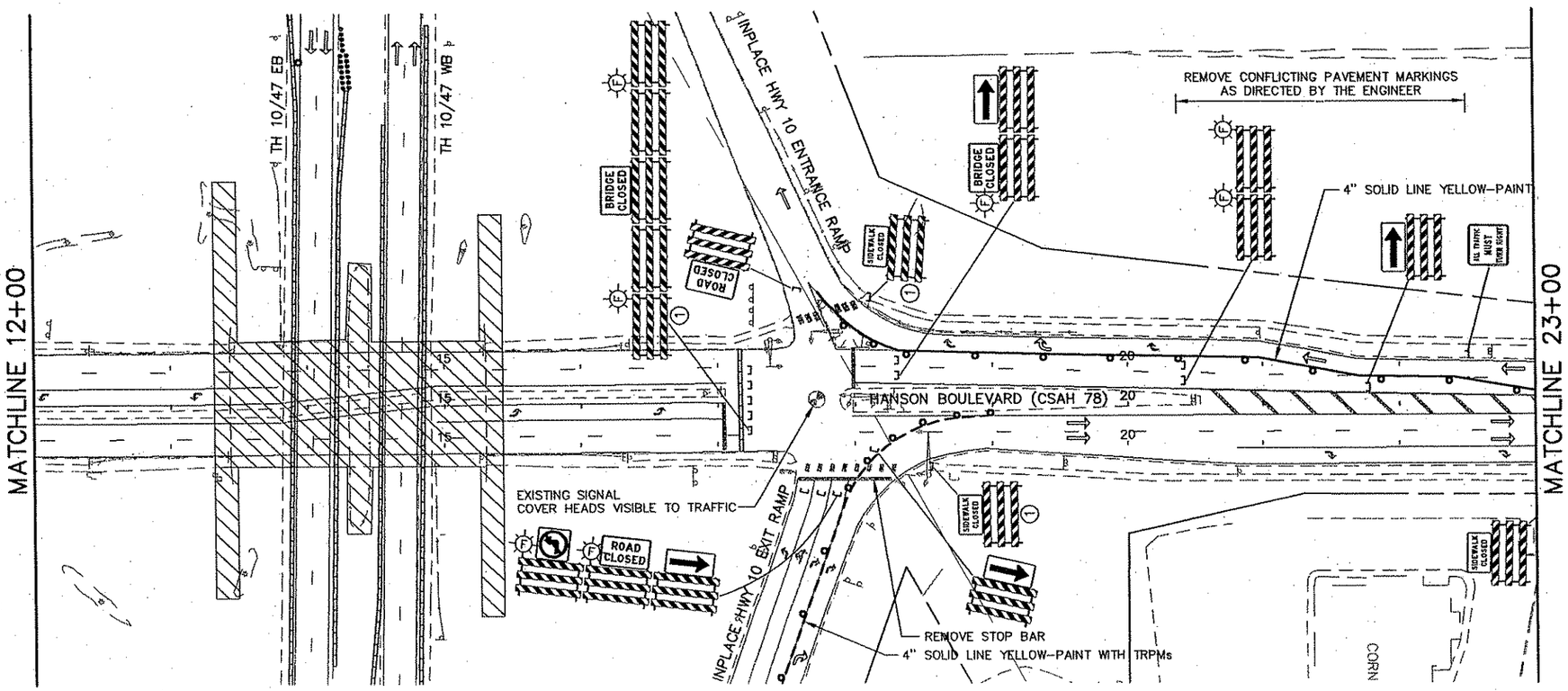
STAGE 1 PHASE 1A
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 318 / 681

PLOT DATE: Jan 007 12:31pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE 6.dwg

Xref'd Drawings
rl-keel-stg
-S1P1SGN
-S1P1
2TCNOTES
-striping
ISN-ETO
ISN-AU
-BDR



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

NORTH

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC37
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

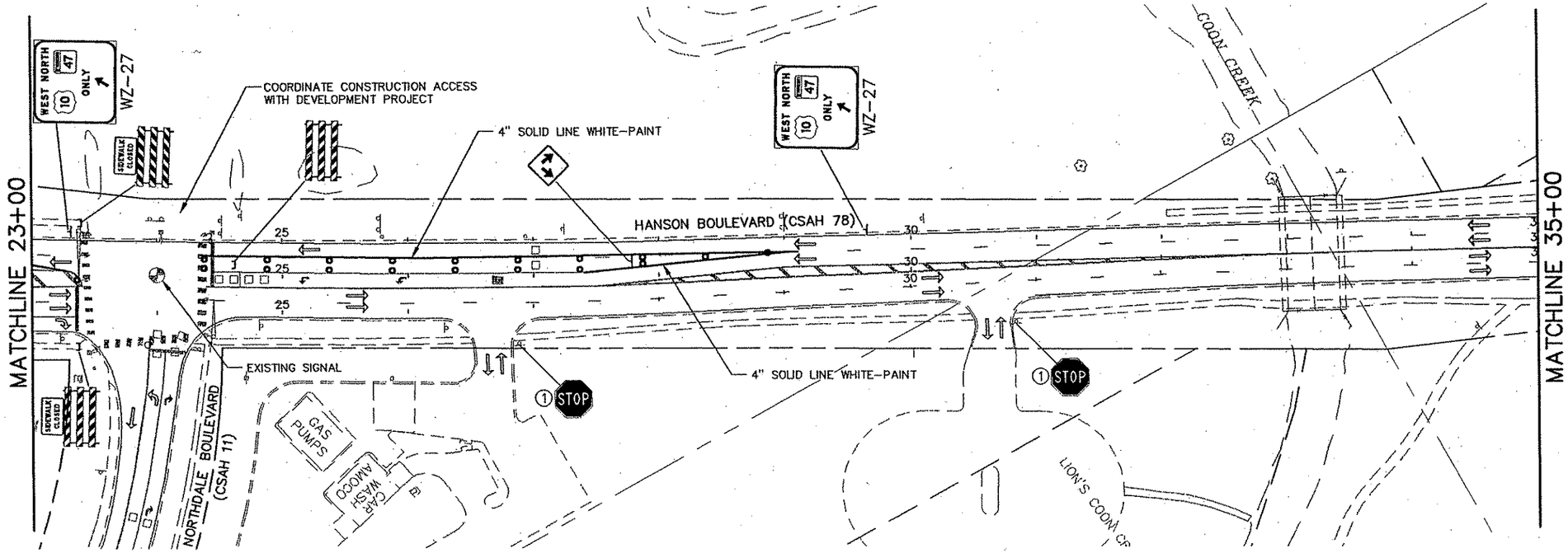
STAGE 1 PHASE 1A
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 319 / 681

PLOT DATE: Jan 7 12:31pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1\042TC37.dwg

Xref'd Drawings
rt-keel-sig
-S1P1SGN
-S1P1
2TCNOTES
-striping
ISN-ETO
ISN-ALJ
F-DWG-BDR
ISN-ESU
x34bd



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
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8. MASK CONFLICTING PAVEMENT MARKINGS
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10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC38
DATE: JANUARY 8, 2006

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Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 1A
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 320 / 681

PLOT DATE: Jan 7 12:31pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg

Xref'd Drawings
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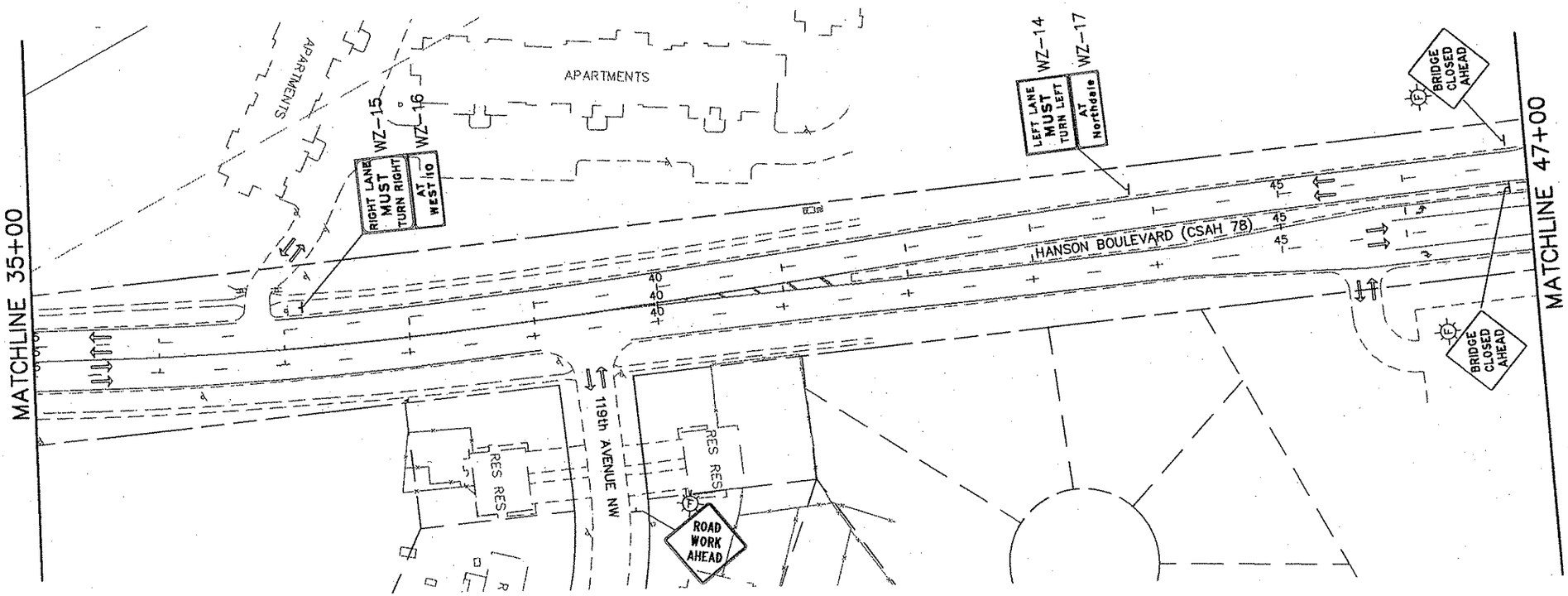
-S1P1SGN
-S1P1
2TCNOTES
-striping
ISN-ETO
ISN-
F 9DR
F
X



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

NORTH

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC39
DATE: JANUARY 8, 2006

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700 Third Street South
Minneapolis, MN 55415
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KARL KEEL
DATE: 1/6/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 1A
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 321 / 681

PLOT DATE: Jan .07 12:31pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\ .dwg

Xref'd Drawings
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-S1P1
2TCNOTES
-striping
ISN-ETO
ISN-ALJ
F-DWG-BDR
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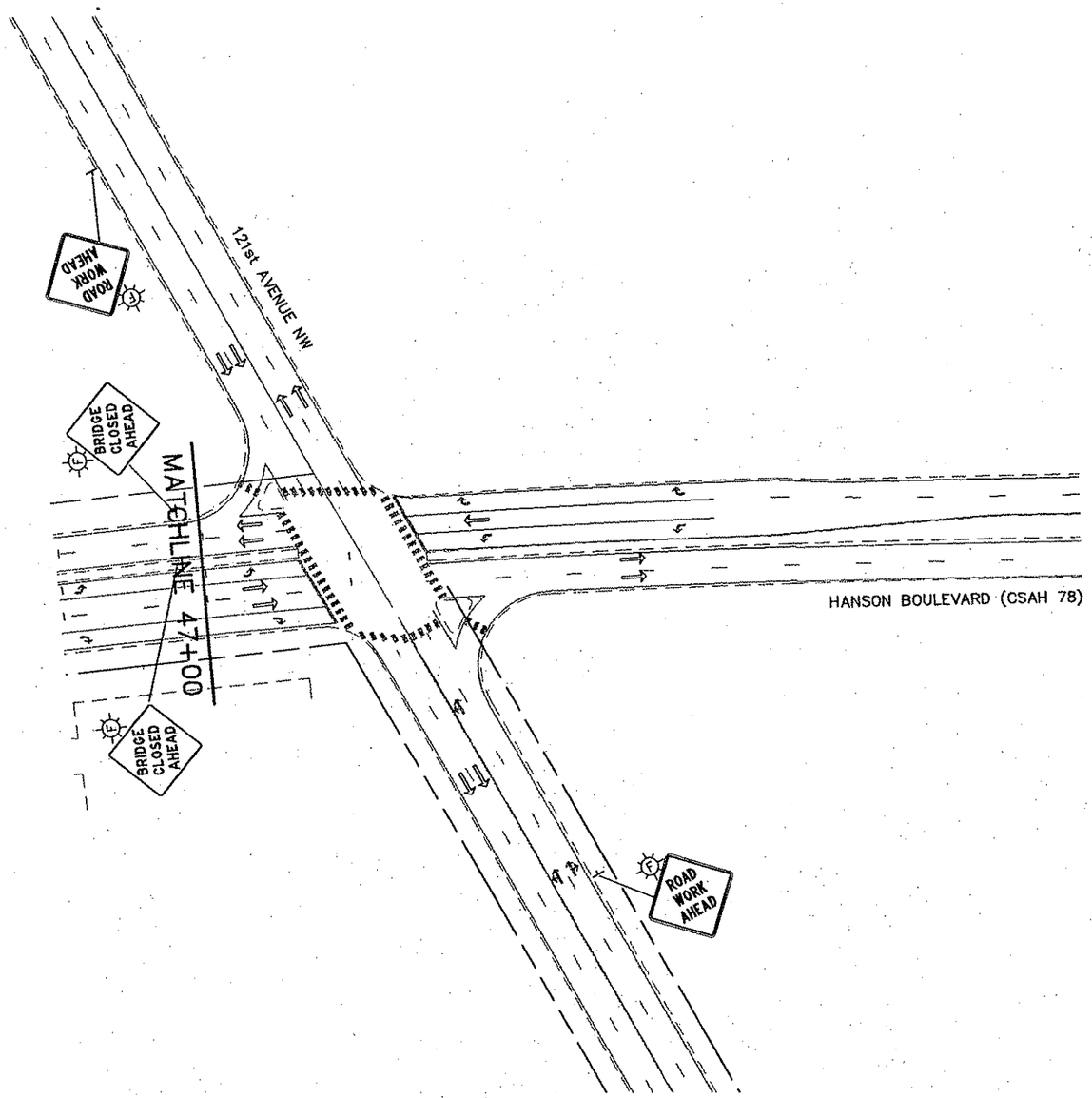
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
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10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

- REMOVALS
- TEMPORARY PAVEMENT
- WORK AREA
- TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC40
DATE: JANUARY 8, 2006

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19881

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 1 PHASE 1A
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 322 / 681

PLOT DATE: Jan 17 12:31pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg

Xref'd Drawings
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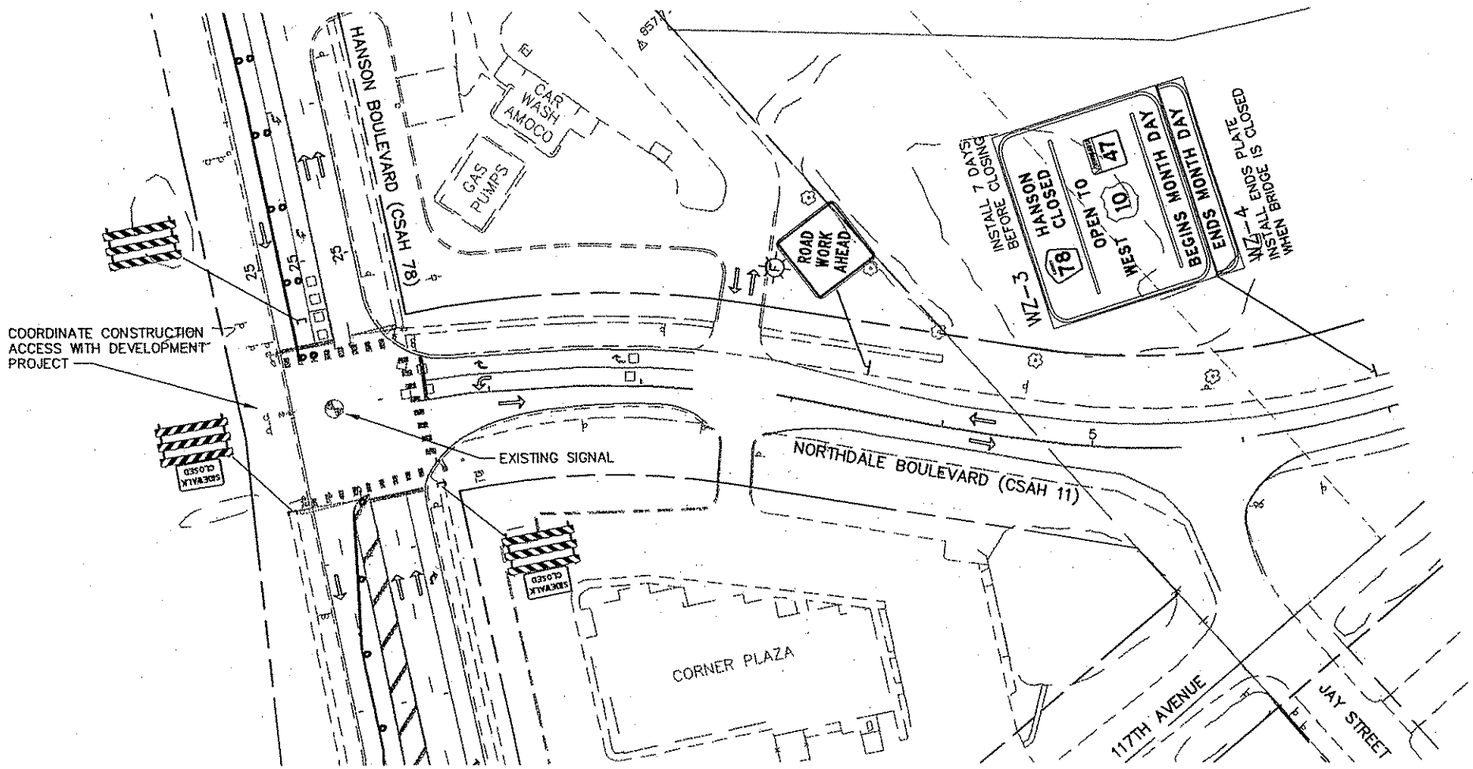
-S1P1SGN
-S1P1
2TCNOTES
-striping
ISN-ETO
ISN-
DR



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC41
DATE: JANUARY 8, 2006

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Minneapolis, MN 55415
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612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 1A
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 323 / 681

PLOT DATE: Jan 07 12:31pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0

Xref'd Drawings
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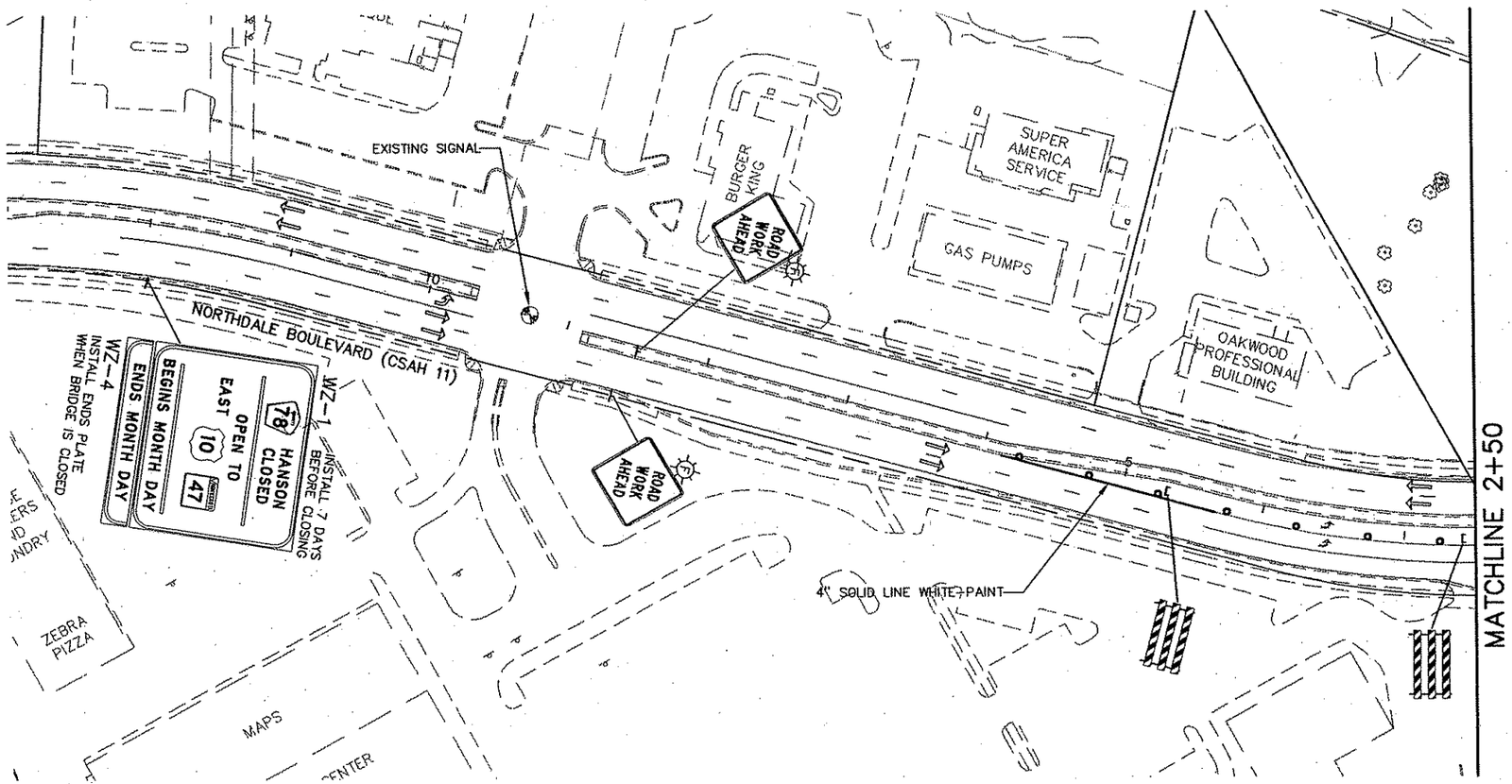
F-DWG-BDR
ISN-ESU
x34bd



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC42
DATE: JANUARY 8, 2006

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 1 PHASE 1A
SOUTH NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 324 / 681

PLOT DATE: Jan 07 12:31pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\C

Xref'd Drawings
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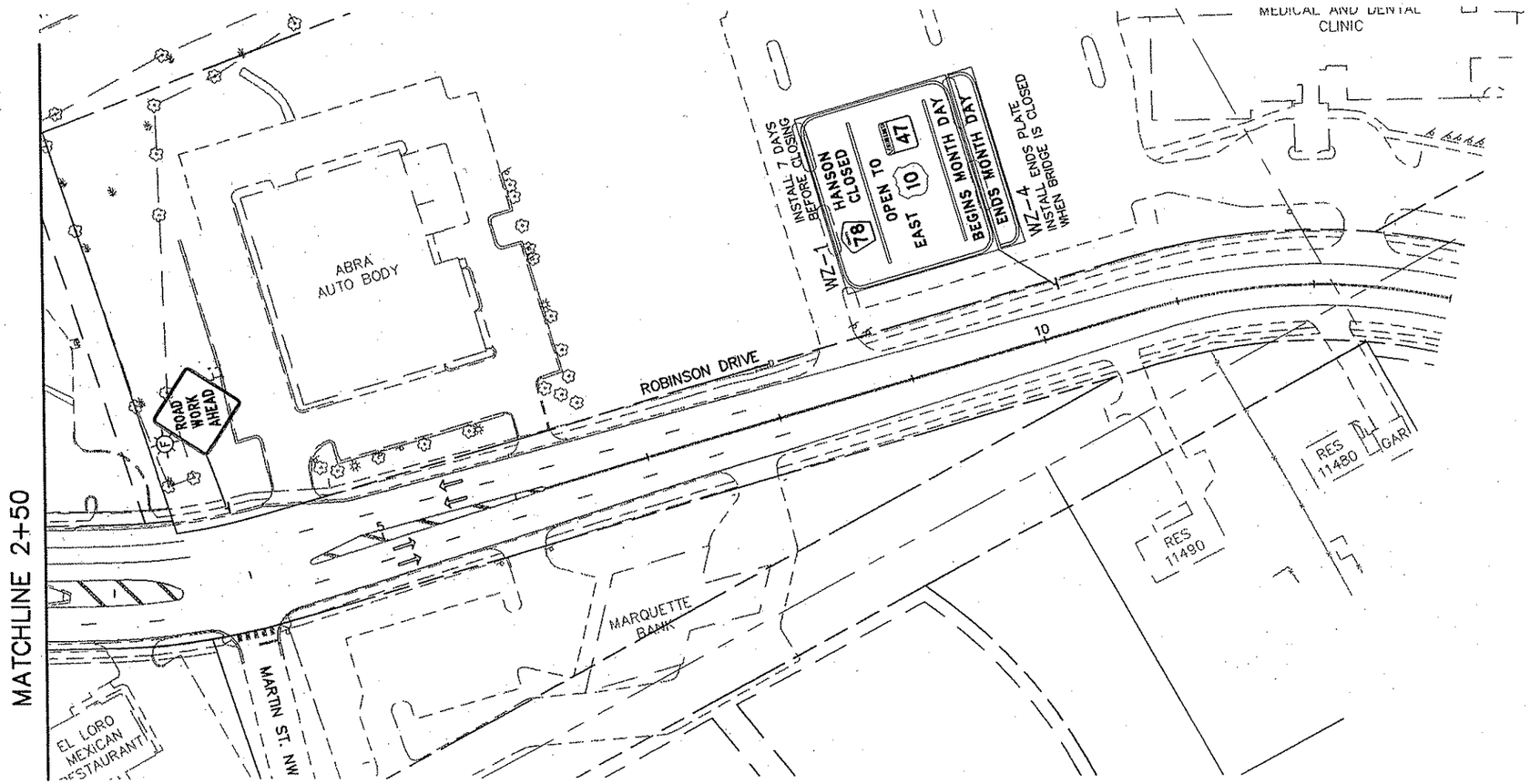
-STP1SGN
-STP1
2TCNOTES
-striping
ISN-ETO
ISN-ALI
-BDR



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F. & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC43
DATE: JANUARY 8, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

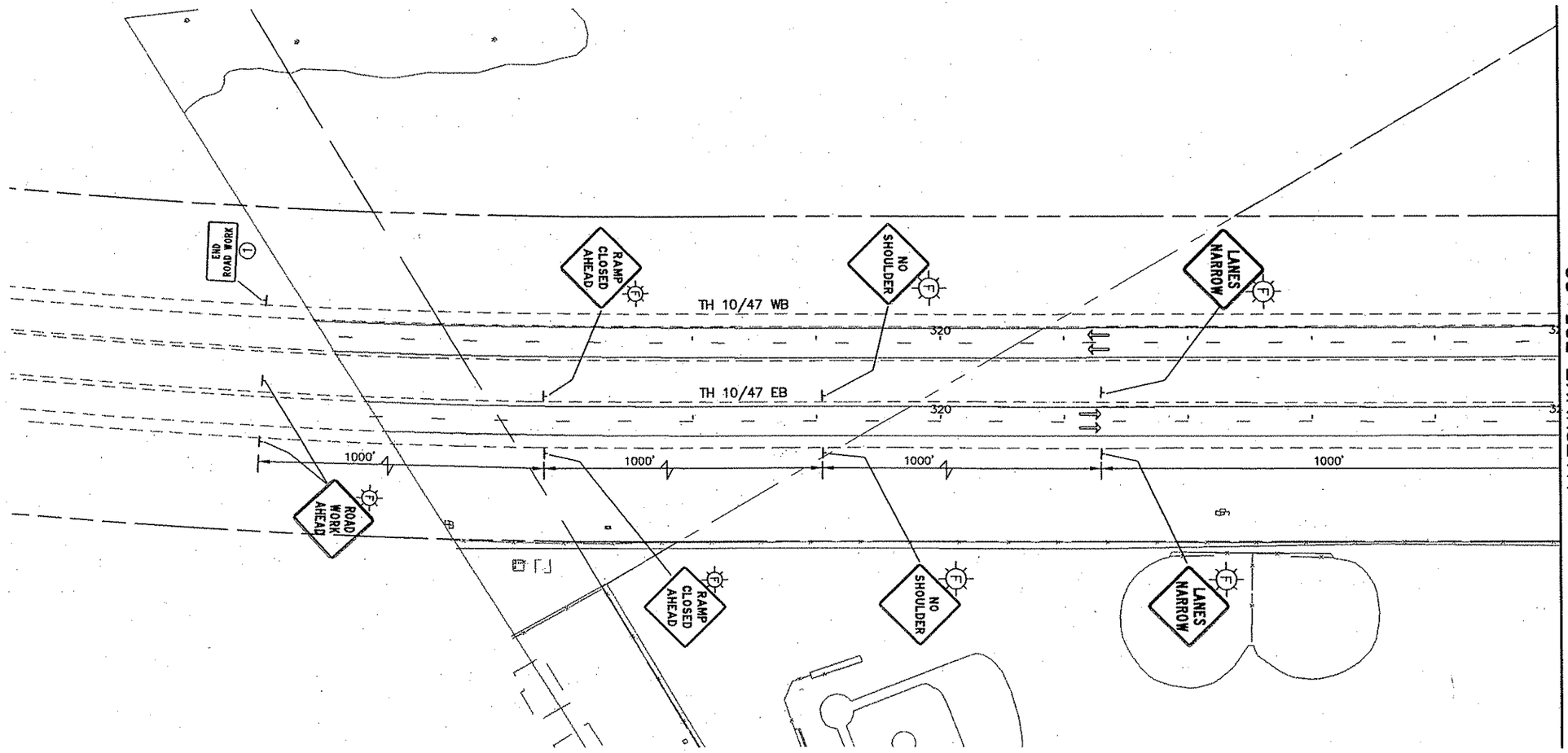
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 1 PHASE 1A
ROBINSON DRIVE

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 325 / 681

PLOT DATE: Jan ... 12:31pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg

Xref'd Drawings
rl-keel-sig
TG1P2
-S1P2SGN
-S1P2
2TCNOTES
-striping
ISN-ETO
ISN-ALI
F-DWG-BDR
ISN-ESI
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
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10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC44
DATE: JANUARY 8, 2006

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

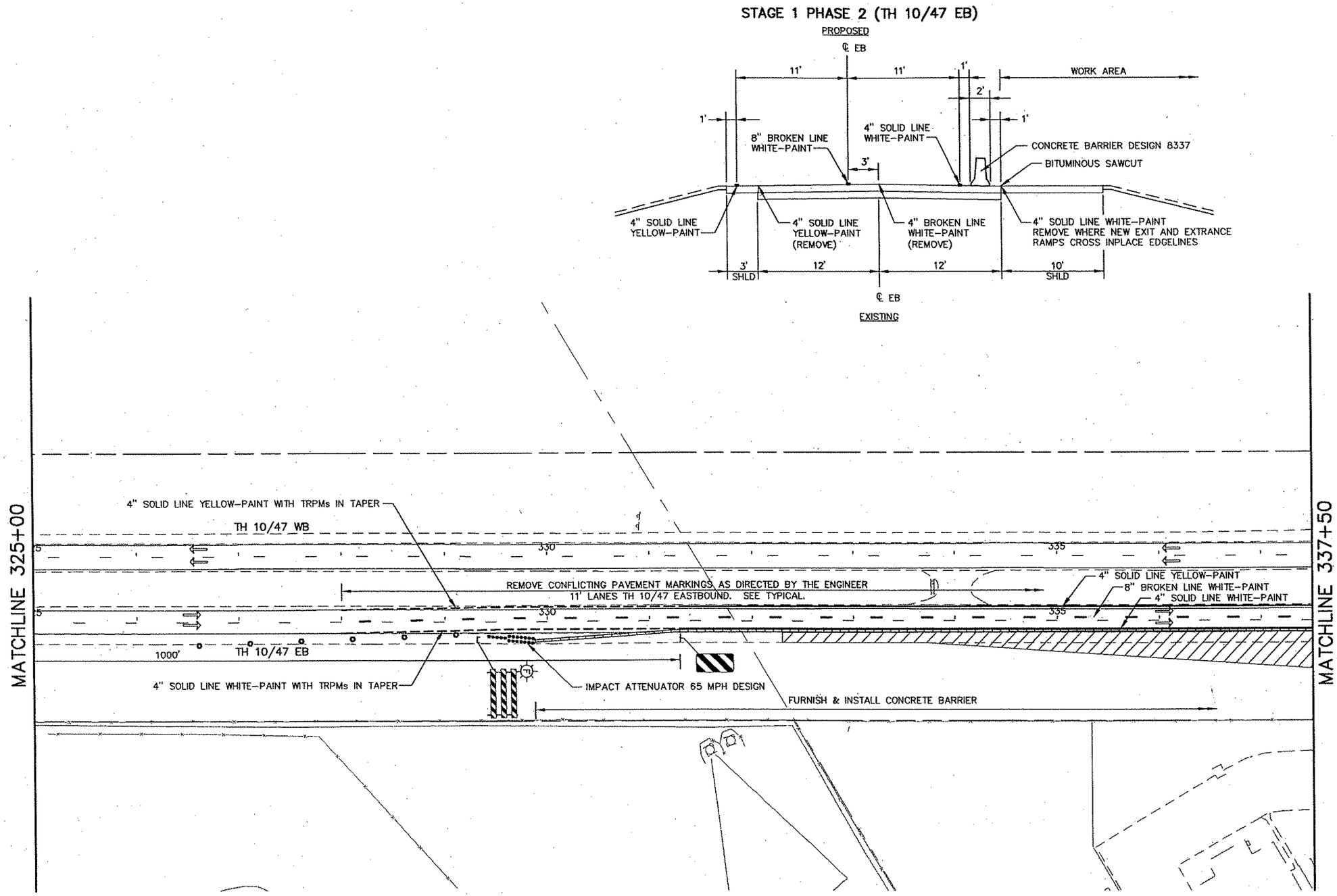
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 2
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 326 / 681

PLOT DATE: Jan 07 12:32pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC45
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 2
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 327 / 681

PLOT DATE: Jan 07 12:32pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 dwg

Xref'd Drawings
rl-keel-sig
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-S1P2SGN
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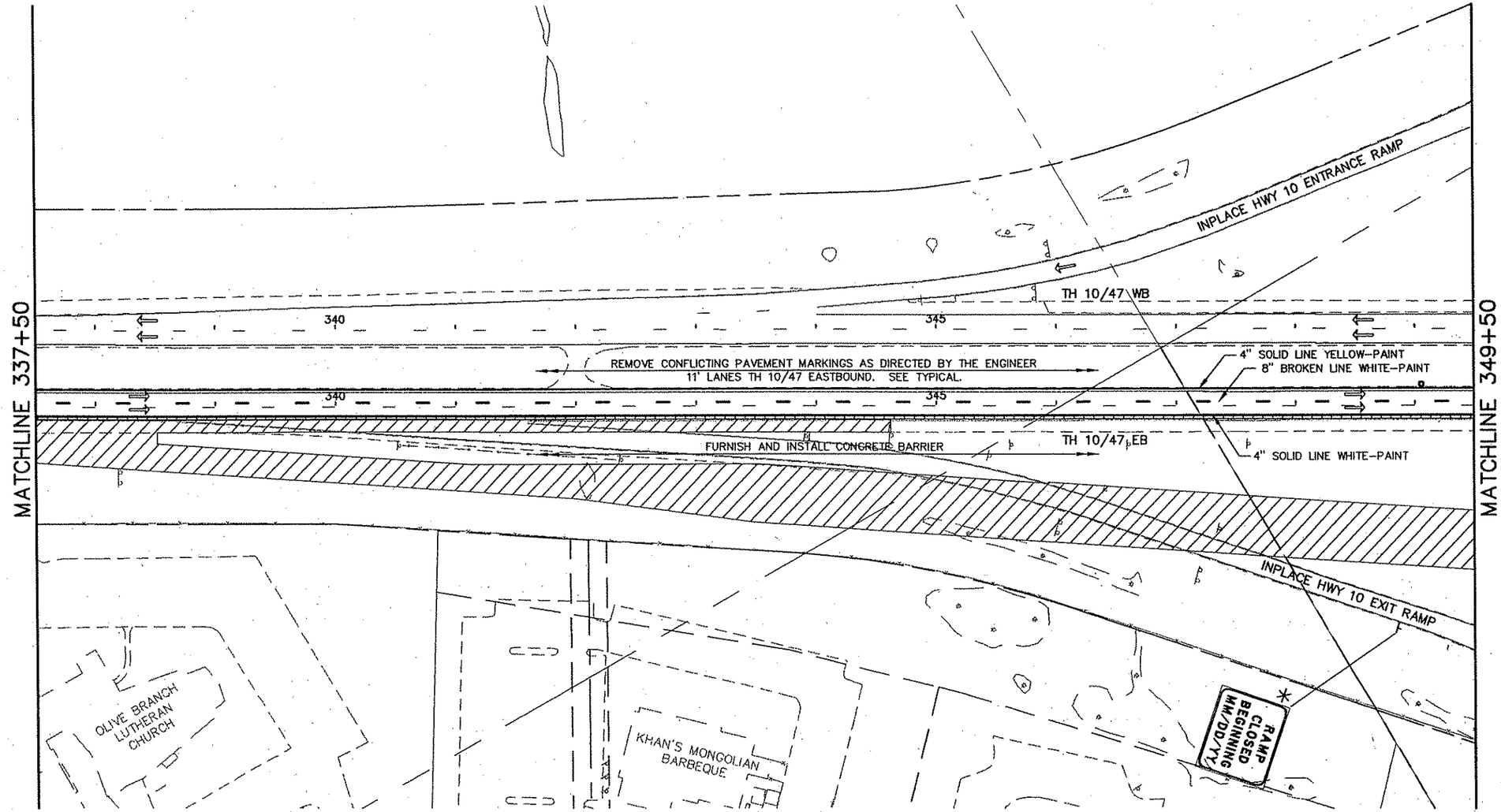
-striping
ISN-ETG
ISN-ALJ
F-DWG-PRP
ISN-ES
x34bd



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

* INSTALL 7 DAYS PRIOR TO CONSTRUCTION

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC46
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 2
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

PLOT DATE: Jan 17 12:32pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg

Xref'd Drawings
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TG1P2
-S1P2SGN
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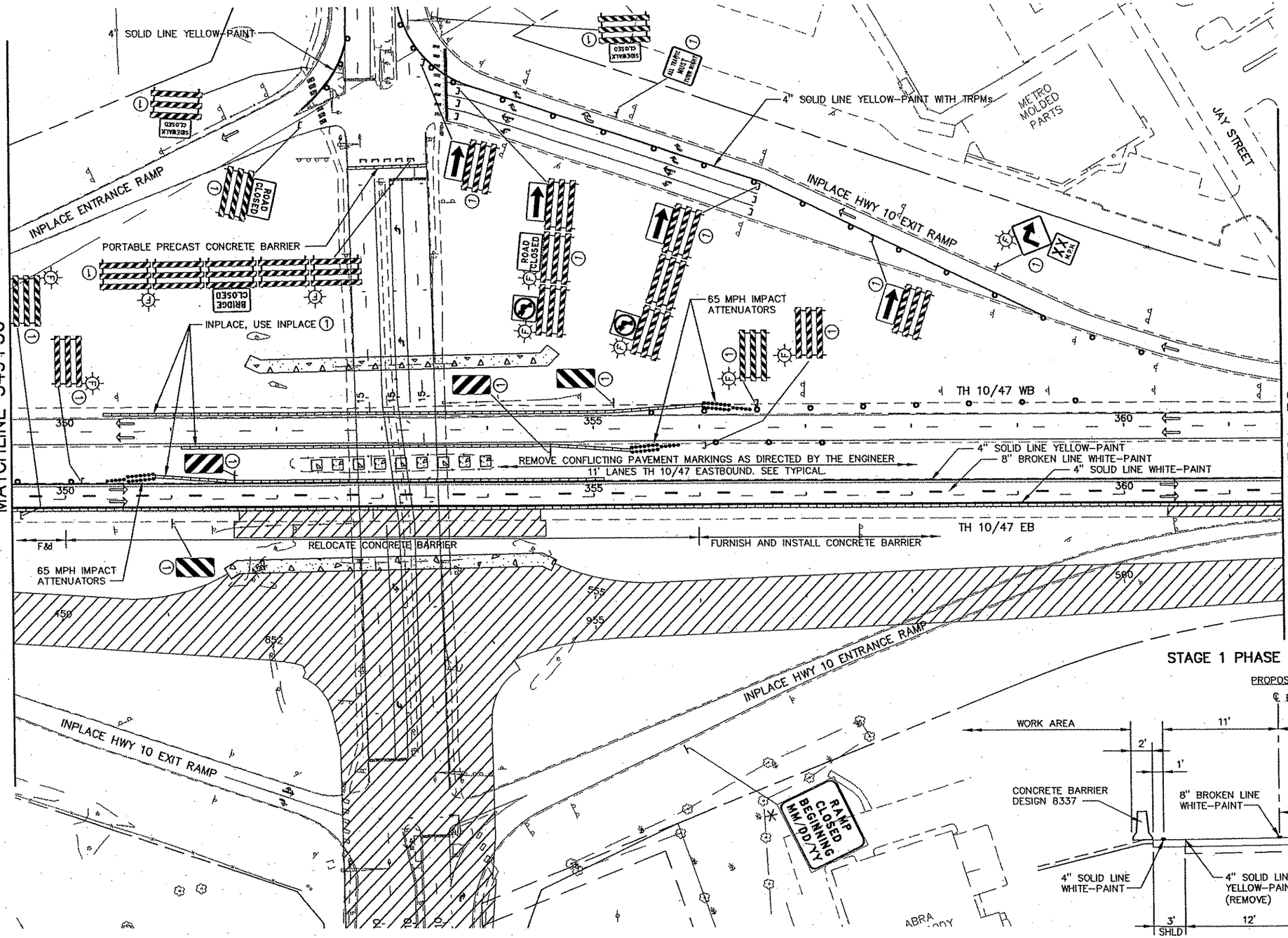
ISN-FTO



LEGEND

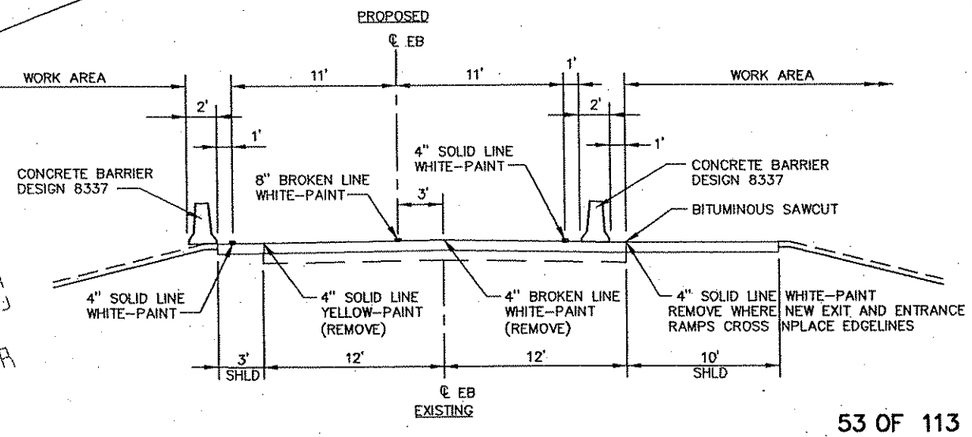
1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

* INSTALL 7 DAYS PRIOR TO CONSTRUCTION

STAGE 1 PHASE 2 (TH 10/47 EB)



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC47
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

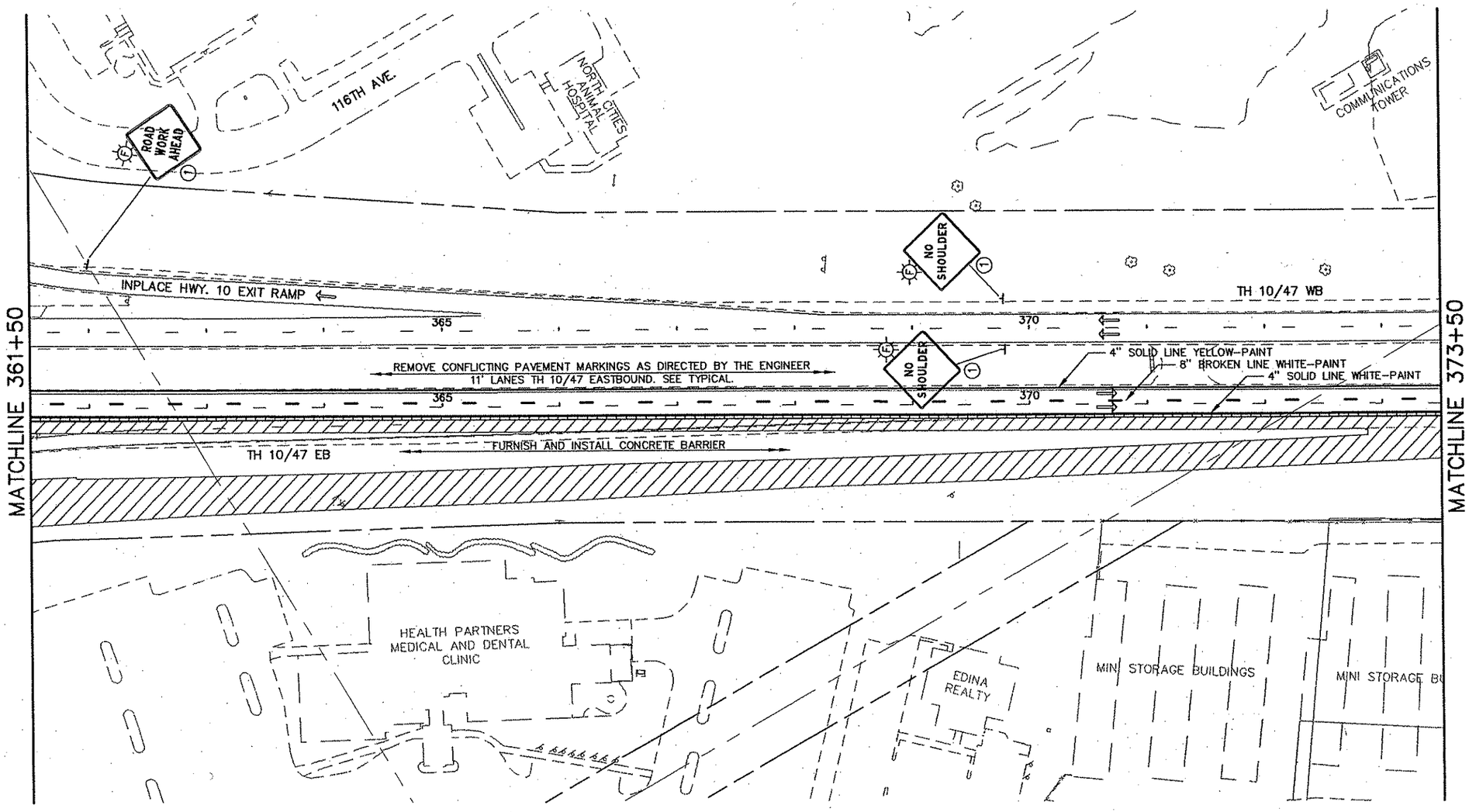
STAGE 1 PHASE 2
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 329/681

PLOT DATE: Jan 07 12:32pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0

Xref'd Drawings
rl-keel-sig
TG1P2
-S1P2SGN
-S1P2
2TCNOTES
-striping
ISN-ETG
ISN-ALI
F-DWG-PRP
ISN-ES
x34bd



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC48
DATE: JANUARY 8, 2006

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

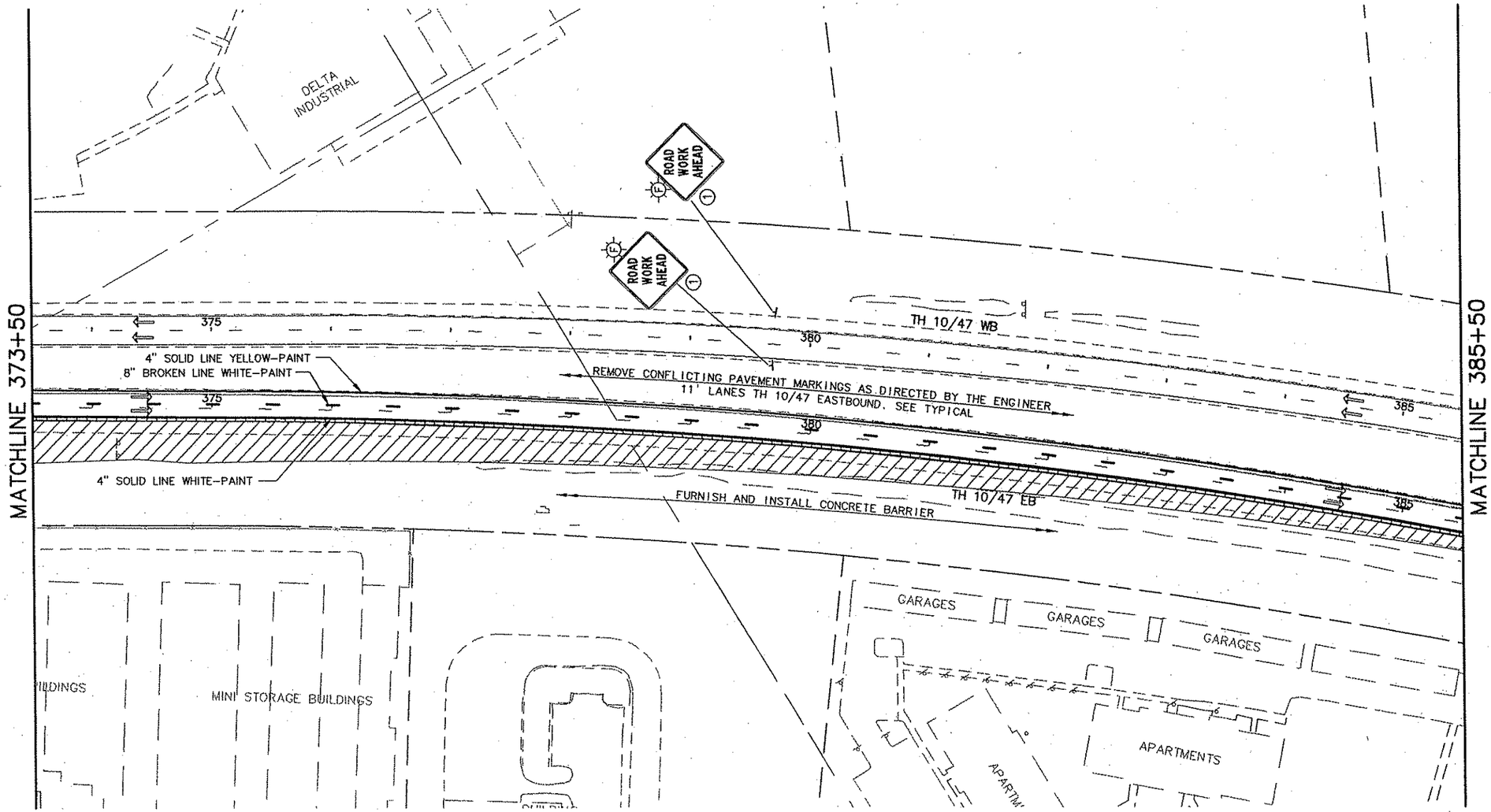
STAGE 1 PHASE 2
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 330 / 681

PLOT DATE: Jan 7 12:32pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0[illegible].dwg

Xref'd Drawings
rt-keel-stg
TG1P2
-S1P2SGN
-S1P2
2TCNOTES
-striping
ISH-FTO



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC49
DATE: JANUARY 8, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

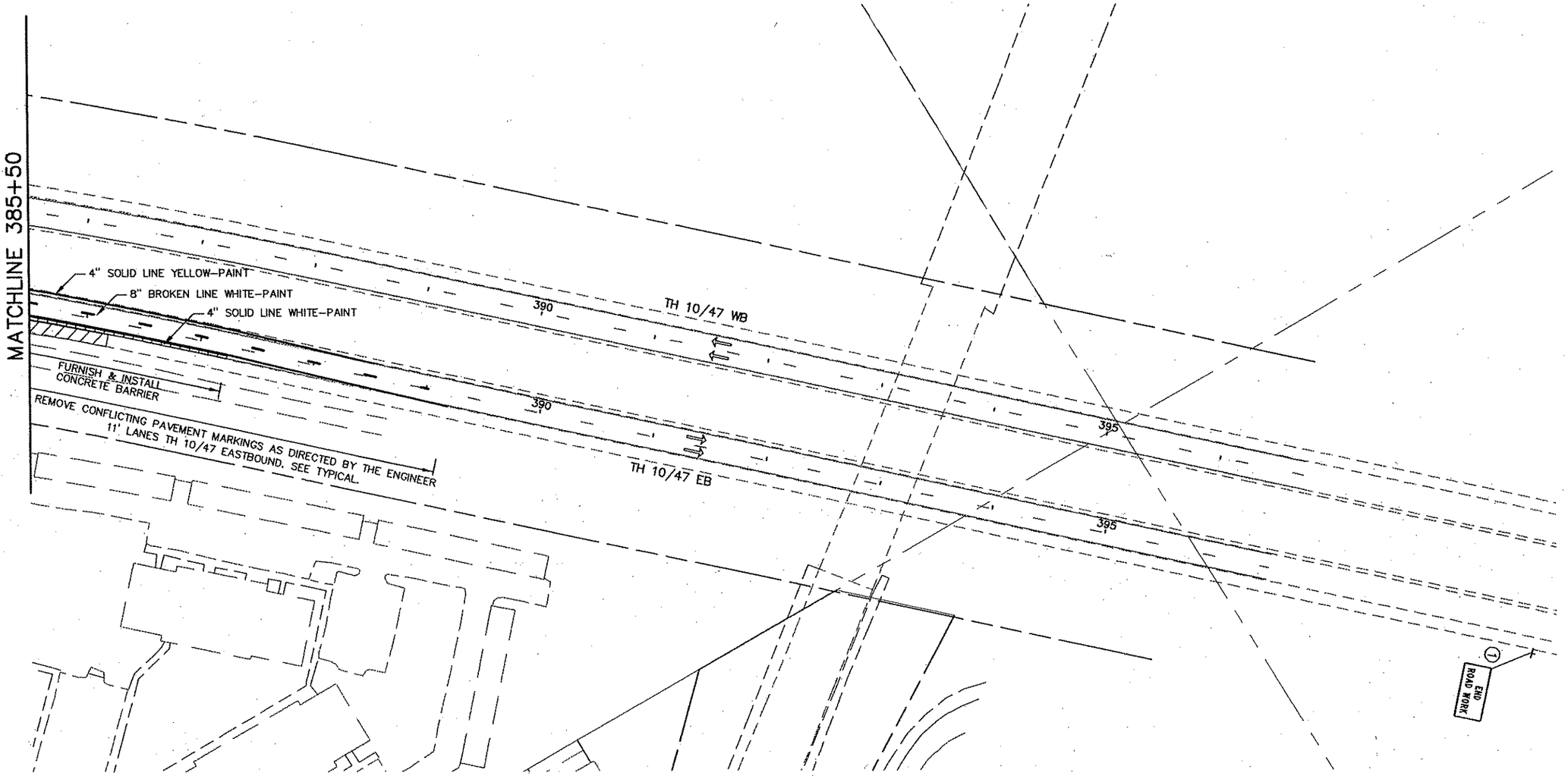
STAGE 1 PHASE 2
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 331 / 681

PLOT DATE: Jan 97 12:32pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0

Xref'd Drawings
rl-keel-slg
TG1P2
-S1P25GN
-S1P2
-striping
2TGNOTES
ISN-ETO
ISN-ALI
F-DWG-PRP
ISN-ES
x34bd



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC50
DATE: JANUARY 8, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

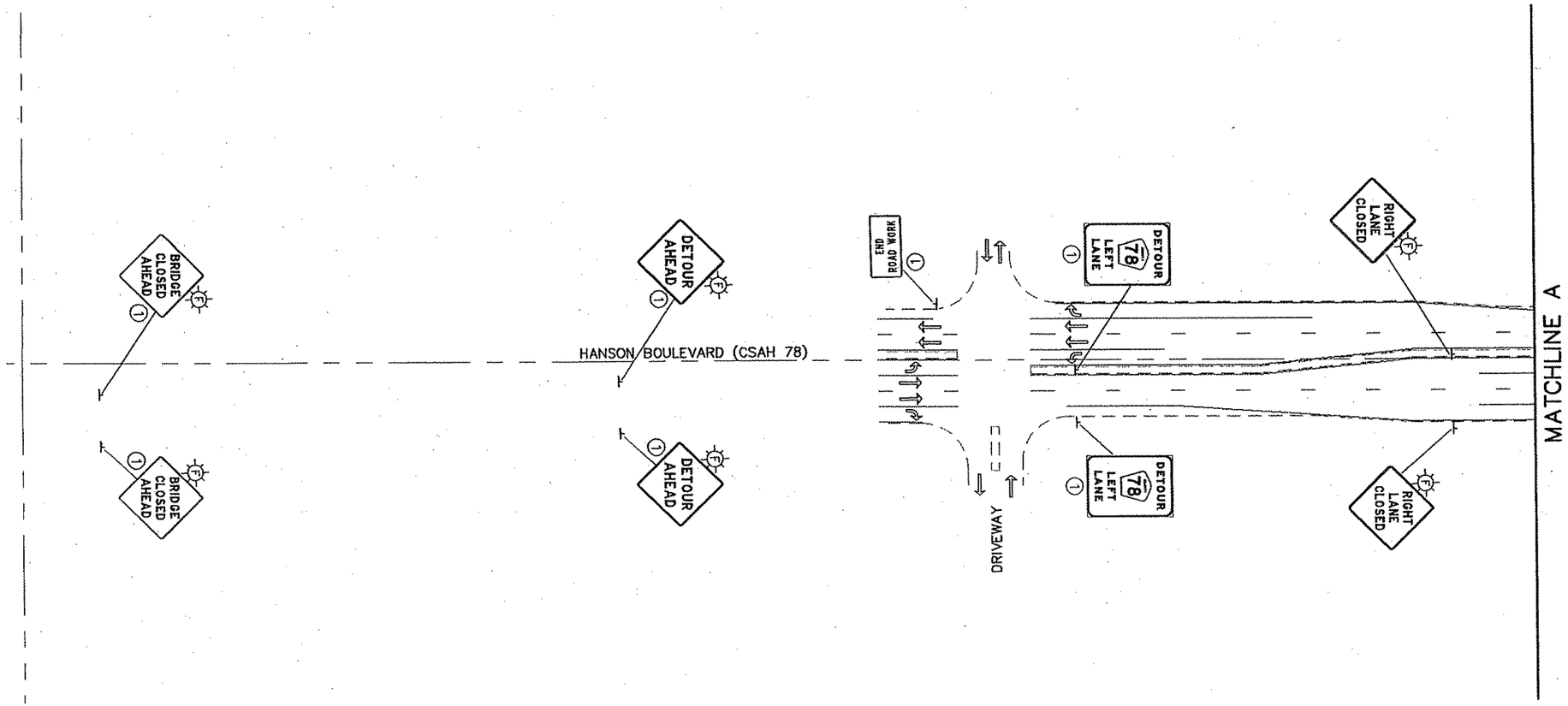
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 2
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 332 / 681

PLOT DATE: Jan 07 12:32pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1\0[illegible].dwg



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC51
DATE: JANUARY 8, 2006

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

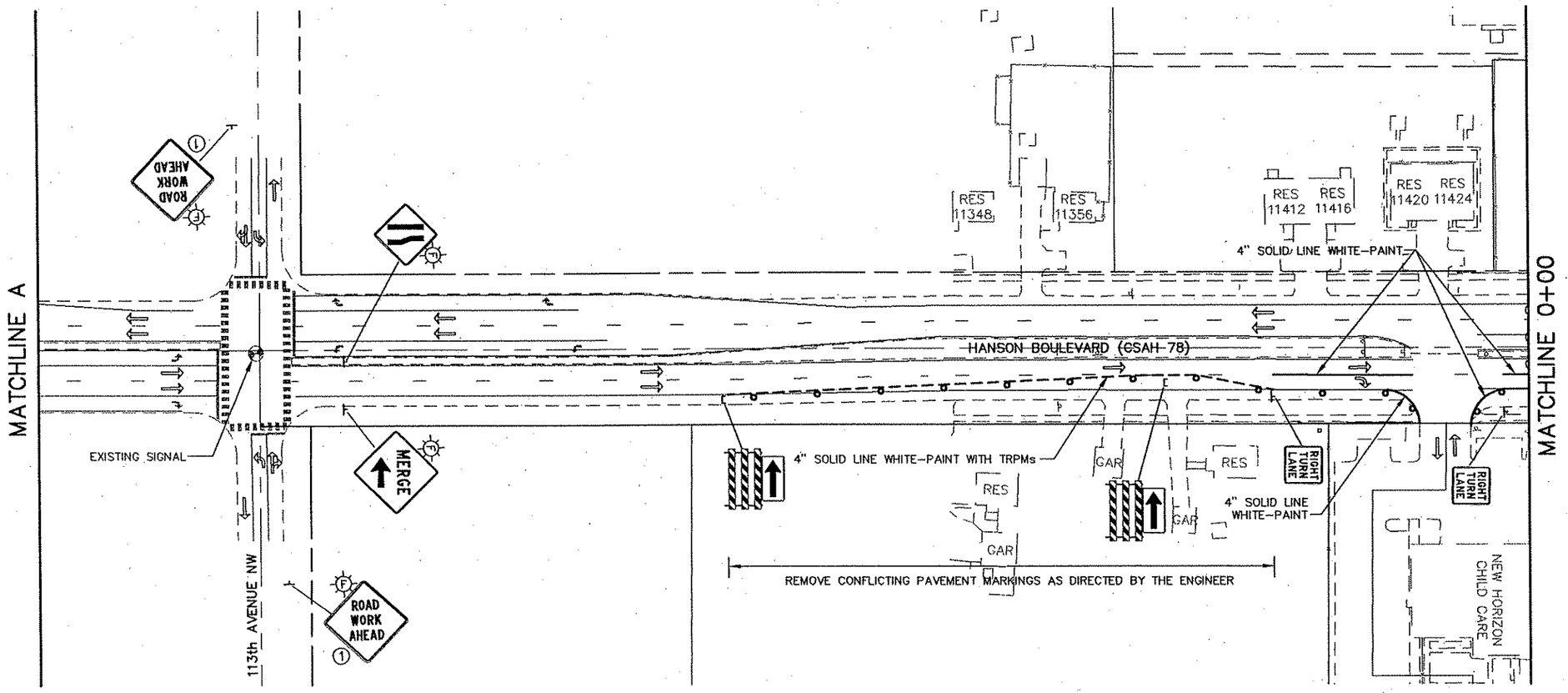
STAGE 1 PHASE 2
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 333 / 681

PLOT DATE: Jan 07 12:33pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0...dwg

Xref'd Drawings
rt-keel-sig
iTG1P2
-S1P2SGN
-S1P2
2TCNOTES
-striping
ISN-ETO
ISN-ALJ
F-DWG-PRP
ISN-ES
x34bd



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

NORTH
0 25 50 100
SCALE IN FEET

PLOT DATE: Jan 17 12:33pm DISK FILE NAME: (16:1) R:\33889\338890#2\PLAN-SHT\TRAF-CONT-STAGE\0

58 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC52
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

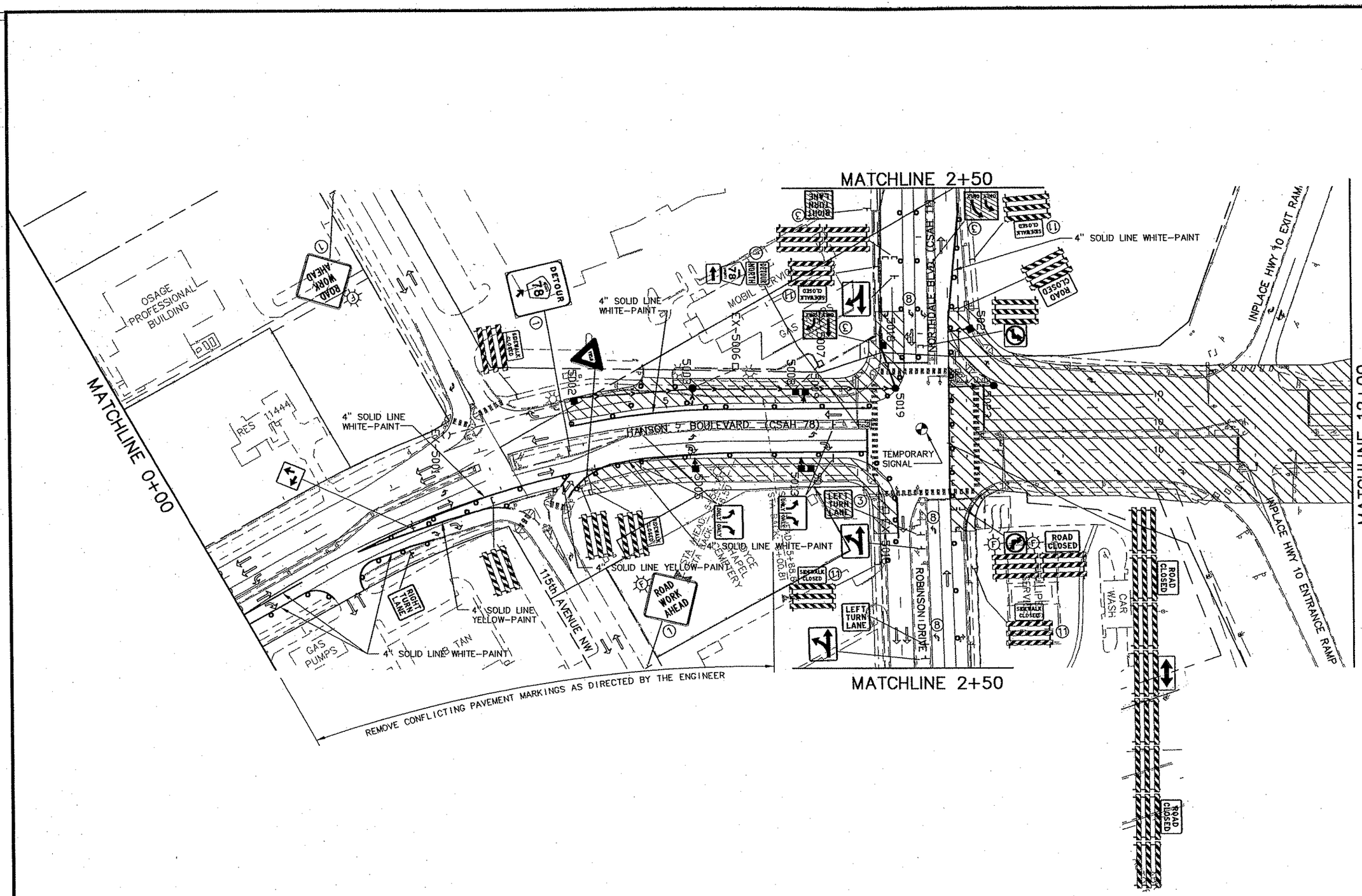
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 2
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 334 / 681

Xref's Drawings
rl-keel-sig
iTG1P2
-S1P2SGN
-S1P2
-striping
ISN-ETO
ISN-AU
9DR



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS
11. MAINTAIN AT LEAST ONE NORTH-SOUTH AND ONE EAST-WEST CROSSWALK AT ALL TIMES. USE SIDEWALK CLOSED SIGNS (R9-9 AND R9-11b) WHERE APPROPRIATE. CROSS WALK STRIPING SHALL BE 8" SOLID LINE WHITE.

0 25 50 100
SCALE IN FEET

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC53
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel.
612.370.1378 Fax

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Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

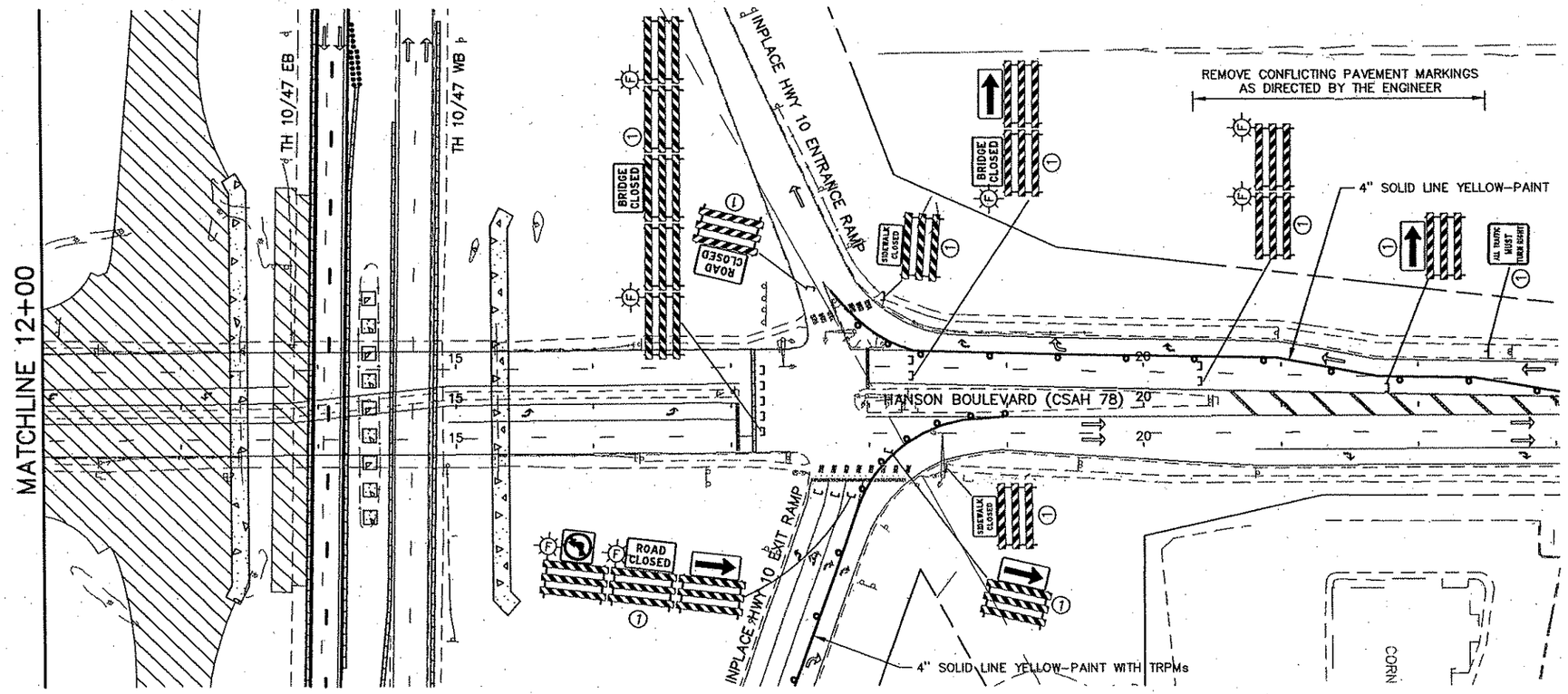
STAGE 1 PHASE 2
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 335 / 681

PLOT DATE: Jan 07 12:33pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg

Xref'd Drawings
rl-keel-sig
iTG1P2
:-S1P2SGN
:-S1P2
-2TCNOTES
-striping
ISN-ETO
ISN-ALI
F-DWG-
ISN-E
!x34b



SEE STAGE 1 PHASE 1A FOR HANSON BOULEVARD TRAFFIC CONTROL

LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

60 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC54
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

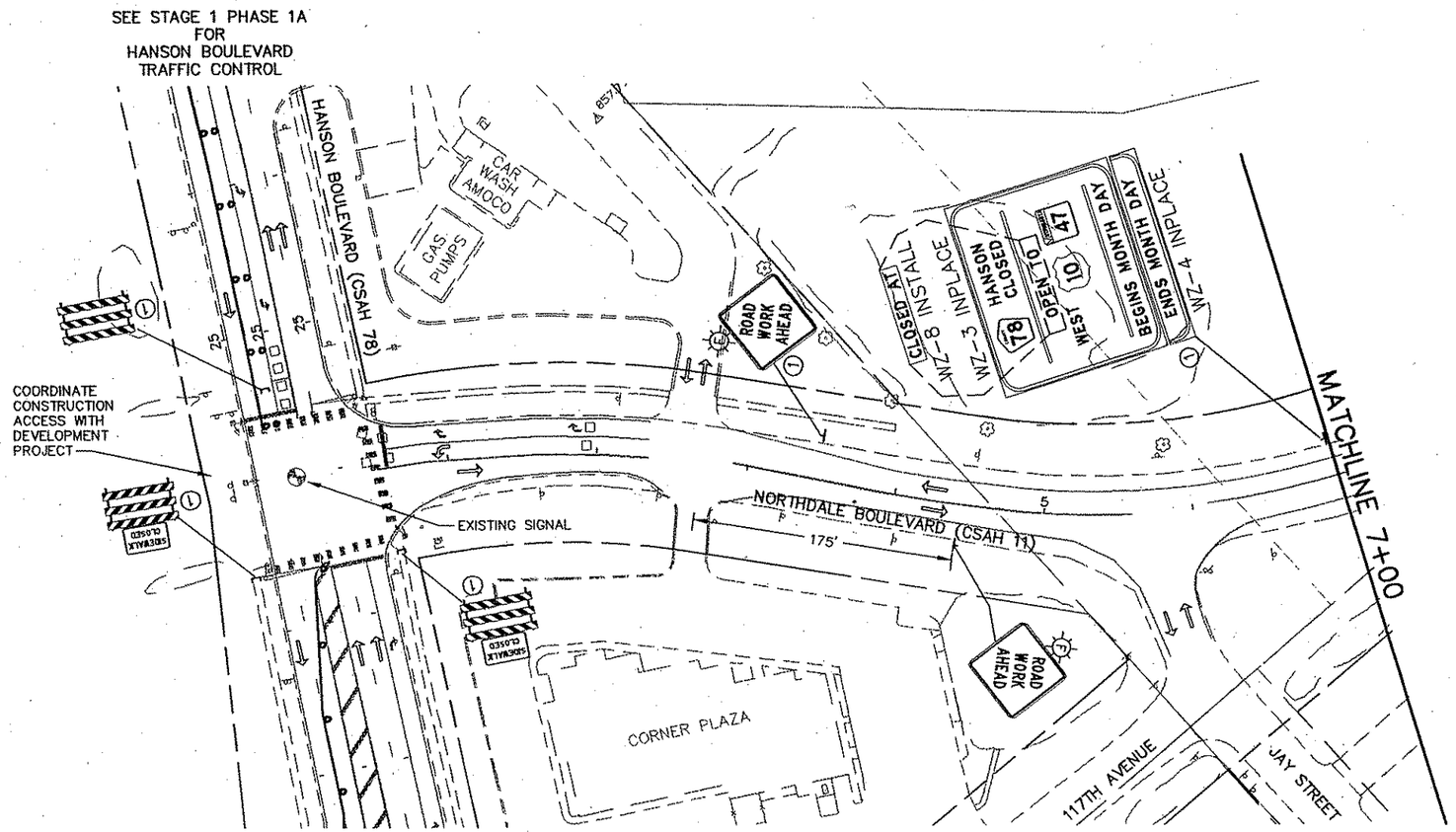
STAGE 1 PHASE 2
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 336 / 681

PLOT DATE: Jan 7 12:33pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg

Xref'd Drawings
rl-keel-stg
-S1P2SGN
-S1P2
2TCNOTES
-striping
ISN-ETO
ISN-ALI
-BDR



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC54A
DATE: JANUARY 8, 2006

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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19661

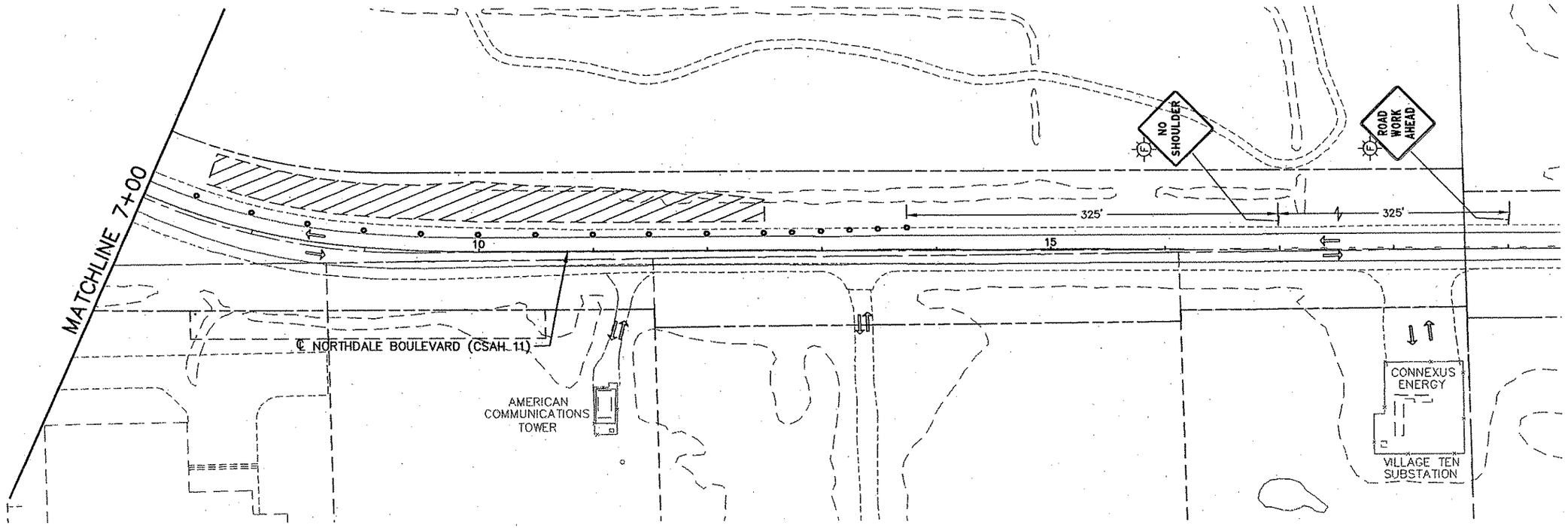
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 1 PHASE 2
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 337 / 681

PLOT DATE: Jan 307 12:33pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1\TC54A.dwg

Xref'd Drawings
rl-keel-slg
)-S1P2SGN
)2TCNOTES
)-S1P2
)-SURCH
)-striping
NSN-ETO
NSN-ALI
)F-DWG-
NSN-EI
2x34bd



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

PLOT DATE: Jan 17 12:33pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0

62 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC54B
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

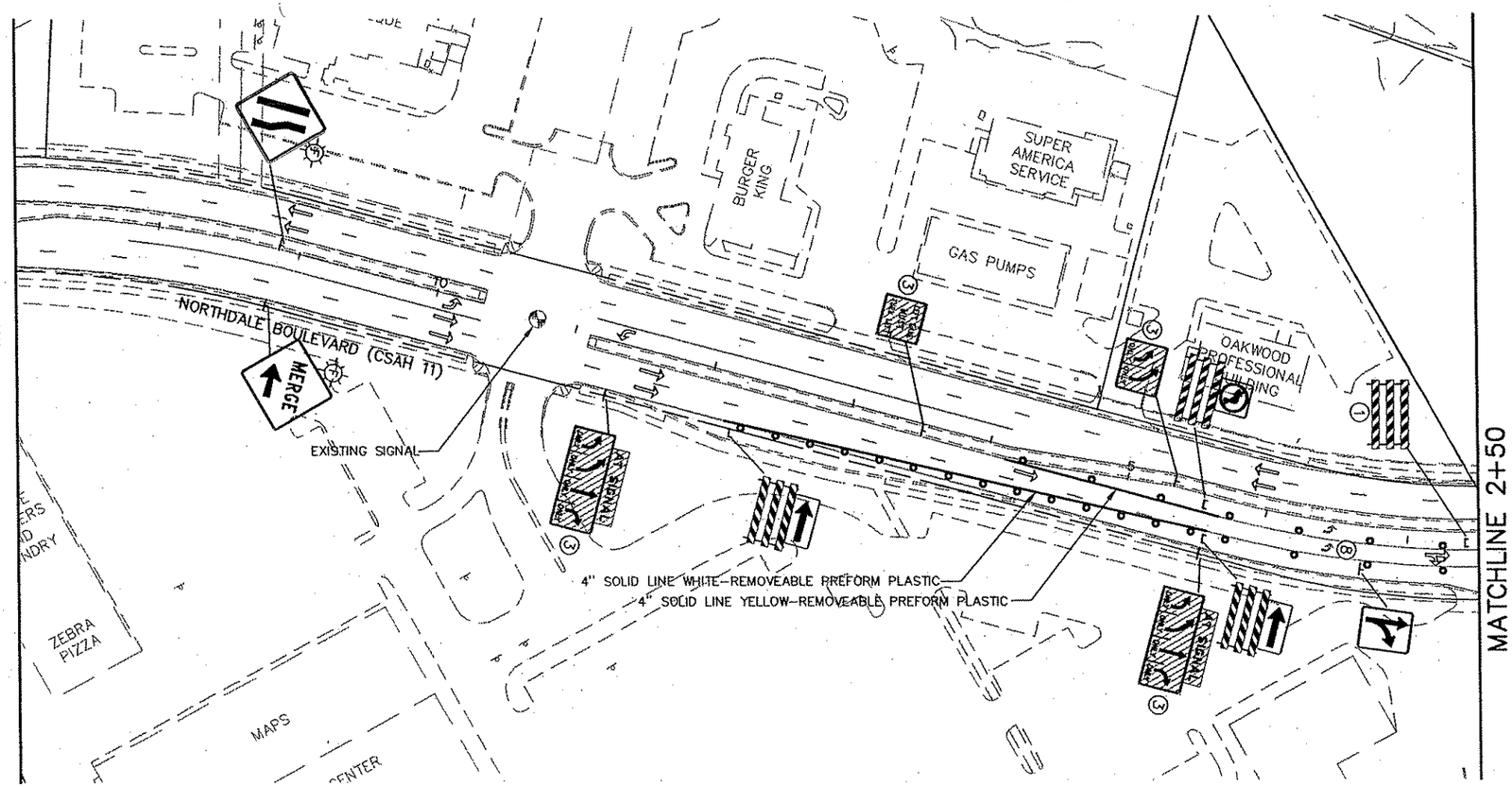
STAGE 1 PHASE 2
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 338 / 681

Xref'd Drawings
rl-keel-sig
iTG1P2
-S1P2SGN
-S1P2
2TCNOTES
-striping
ISN-PTO
DR

MATCHLINE 13+00



MATCHLINE 2+50

LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC59
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

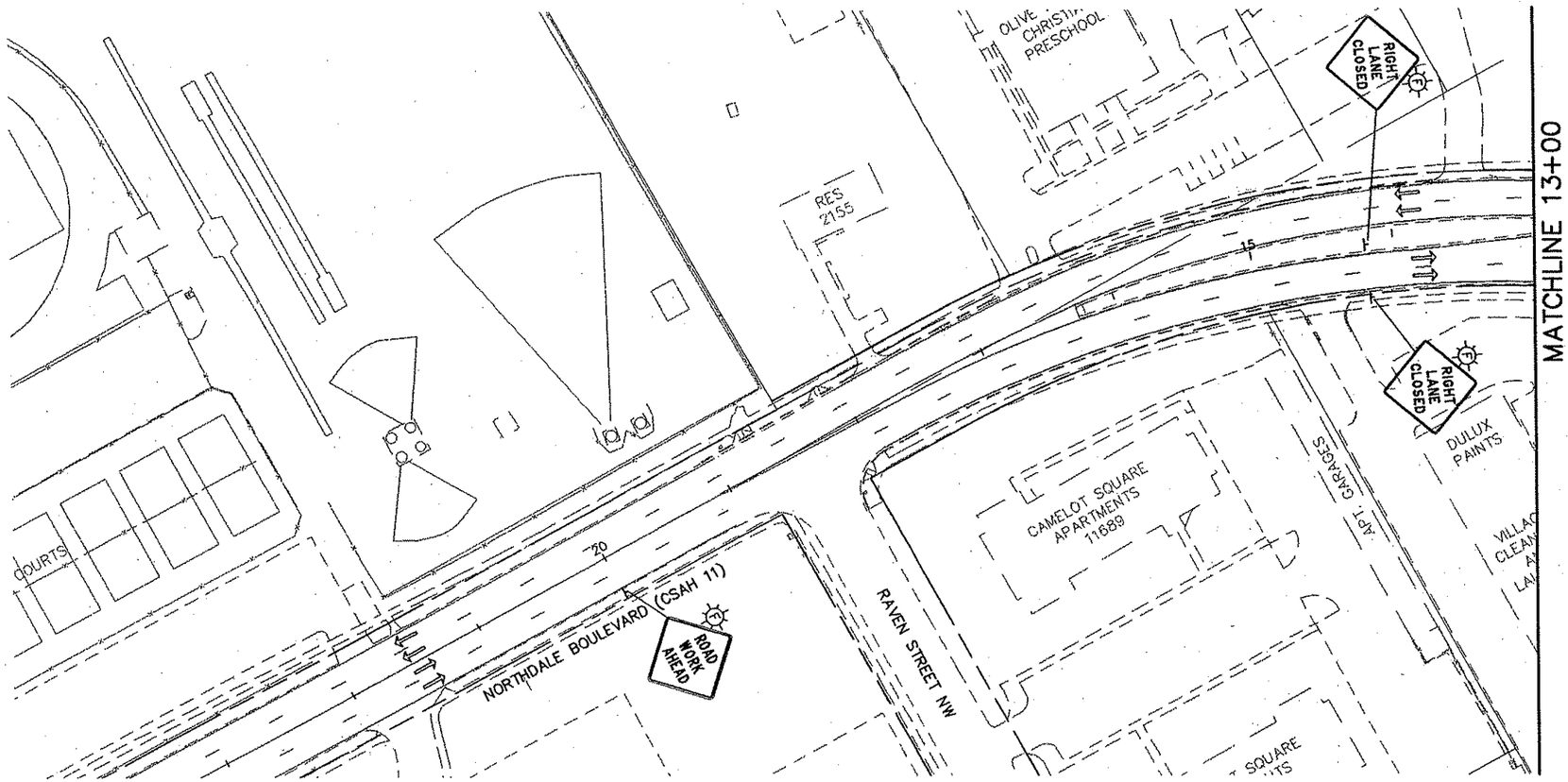
STAGE 1 PHASE 2
SOUTH NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 339 / 681

PLOT DATE: Jan 07 12:33pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg

Xref'd Drawings
rt-keel-sig
-S1P2SGN
-S1P2
TG1P2
2TCNOTES
-striping
ISN-ETO
ISN-ALI
F-DWG-
ISN-E
x34bd



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
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10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC60
DATE: JANUARY 8, 2006

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 1 PHASE 2
SOUTH NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 340 / 681

PLOT DATE: Jan 8, 07 12:33pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg

Xref'd Drawings
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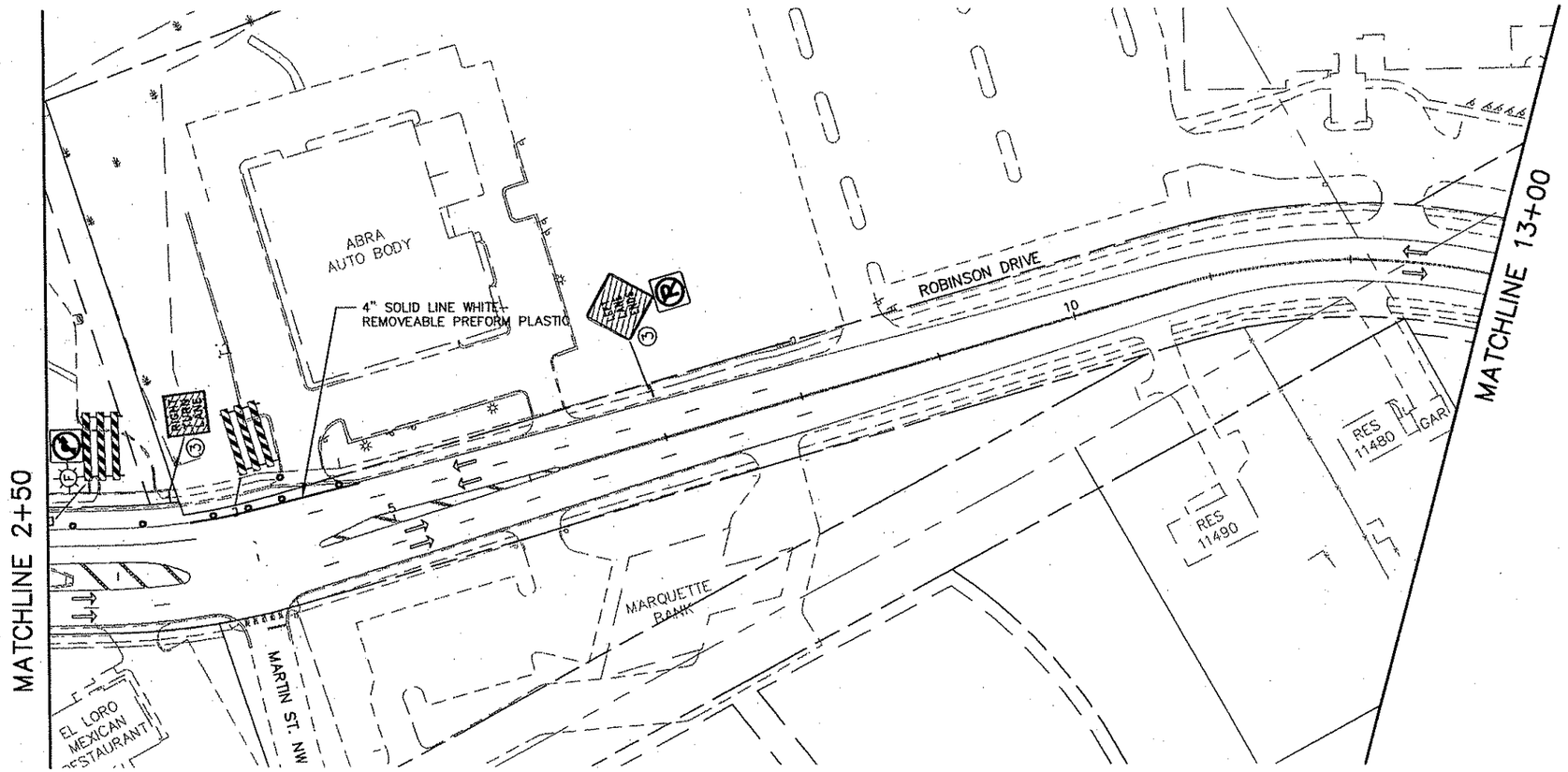
-S1P2SGN
-S1P2
2TCNOTES
-striping
SN-ETO
DR
x34



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
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REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC61
DATE: JANUARY 8, 2006

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

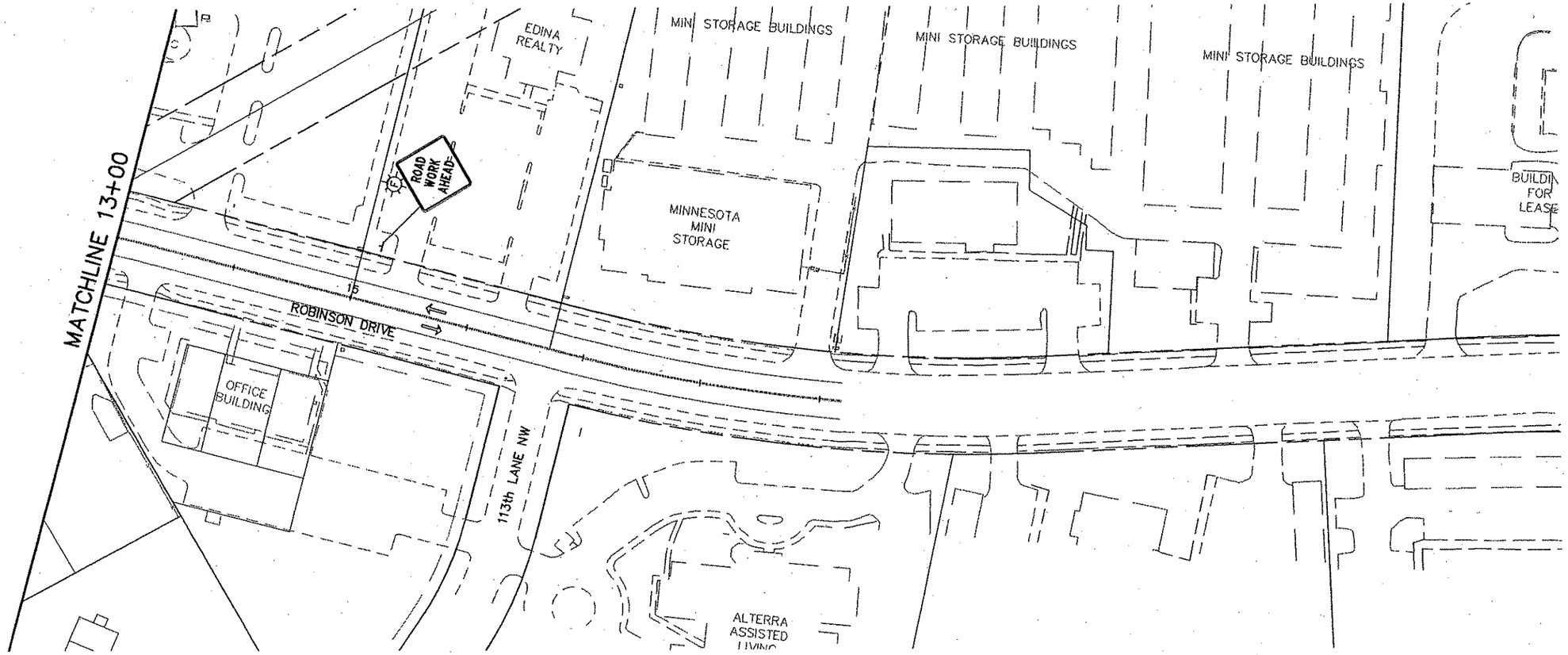
STAGE 1 PHASE 2
ROBINSON DRIVE

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 341 / 681

PLOT DATE: Jan 2007 12:34pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg

Xref'd Drawings
rl-keel-sig
--S1P2SGN
--S1P2
-2TCNOTES
--striping
ISN-ETC
ISN-ALJ
F-DWG-BDR
ISN-ESU
x34bd



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR/ELJ | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC62
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Karl P. Keel

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 2
ROBINSON DRIVE

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 342 / 681

PLOT DATE: Jan 17 12:34pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0...dwg

Xref'd Drawings
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3TC1P2a_MASK
3TC1P2A
)-S1P2ASGN
)-S1P2A
-st-tmg
(
g
NSh-c3
x34bdr

MATCHLINE 2+50

MATCHLINE 0+00

MATCHLINE 12+00

OSAGE PROFESSIONAL BUILDING

ROAD WORK AHEAD

4" SOLID LINE YELLOW–REMOVEABLE PREFORM PLASTIC WITH TRPMs AT 10' SPACING

4" SOLID LINE WHITE–REMOVEABLE PREFORM PLASTIC WITH TRPMs AT 10' SPACING

4" SOLID LINE YELLOW–REMOVEABLE PREF PLASTIC

4" SOLID LINE WHITE–PAINT

MOBIL SERVICE

GAS PUMPS

STOP

STOP LINE

TEMPORARY SIGNAL

HANSON BOULEVARD (CSAH 78)

SIDEWALK CLOSED

ROAD CLOSED

ROBINSON DRIVE

PHILLIPS 66 SERVICE

115th AVENUE NW

RIGHT TURN LANE

LEFT TURN LANE

4" SOLID LINE WHITE–REMOVEABLE PREFORM PLASTIC WITH TRPMs AT 10' SPACING

4" SOLID LINE WHITE–PAINT

4" SOLID LINE YELLOW–PAINT

UB TANK

GAS PUMPS

SEE STAGE 1 PHASE 2 FOR HANSON BOULEVARD TRAFFIC CONTROL

REMOVE CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER

MATCHLINE 2+50

R66D CLOSED

LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1–800–769–3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS
11. MAINTAIN AT LEAST ONE NORTH–SOUTH AND ONE EAST–WEST CROSSWALK AT ALL TIMES. USE SIDEWALK CLOSED SIGNS (R9–9 AND R9–11b) WHERE APPROPRIATE. CROSSWALK STRIPING SHALL BE 8" SOLID LINE WHITE.

NORTH

0 25 50 100
SCALE IN FEET

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC72
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 2A
HANSON BOULEVARD

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 343 / 681

PLOT DATE: Jan 07 12:43pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0

Xref'd Drawings
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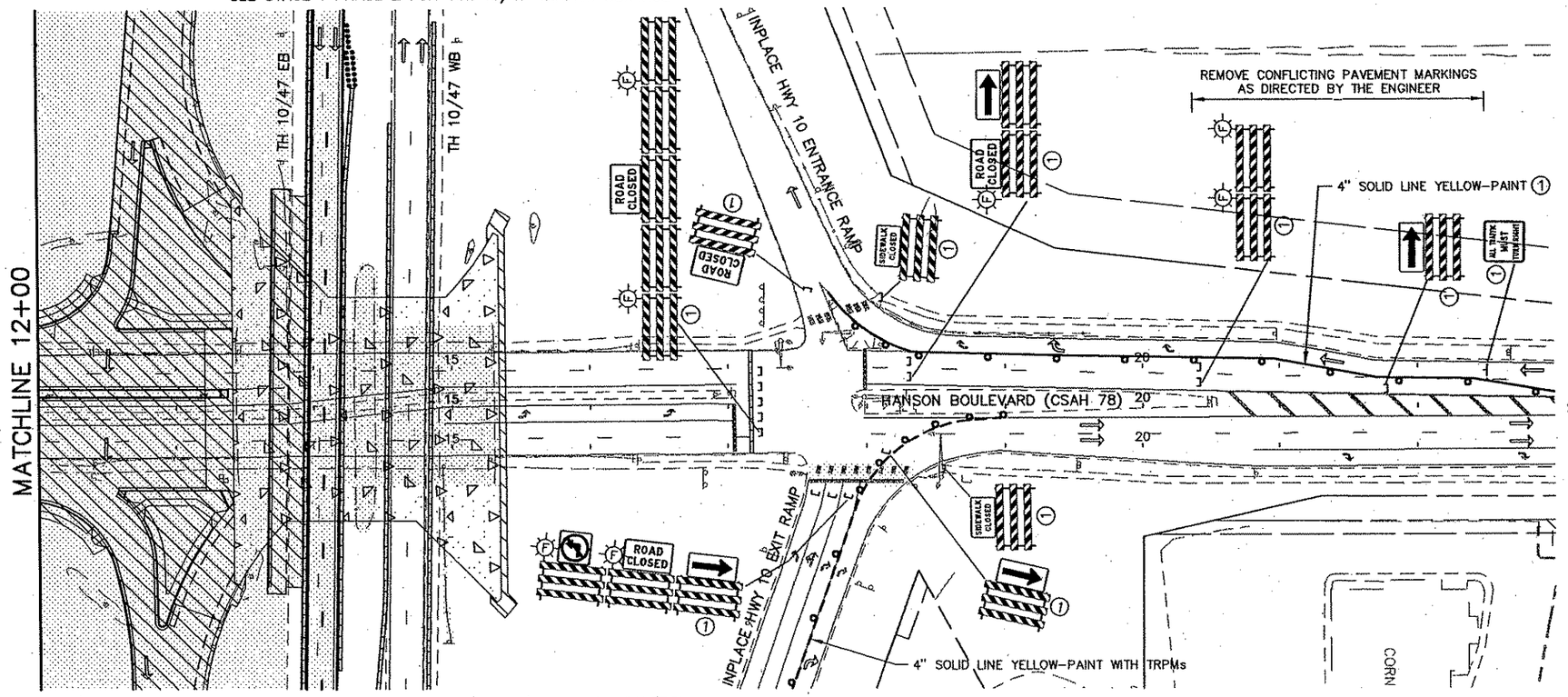
D-ESM
TG1P2-PCO
TG1P2a_MASK
TG1P2A
-S1P2ASGN
-S1P2A
2TCNOTES
-striping
ISN-ET
ISN-A
F-DWG
ISN-ESU
5x34bd

SEE STAGE 1 PHASE 2 FOR T.H. 10/47 TRAFFIC CONTROL



SEE STAGE 1 PHASE 2 FOR T.H. 10/47 TRAFFIC CONTROL

SEE STAGE 1 PHASE 2 FOR HANSON BOULEVARD TRAFFIC CONTROL

LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC73
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0100 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

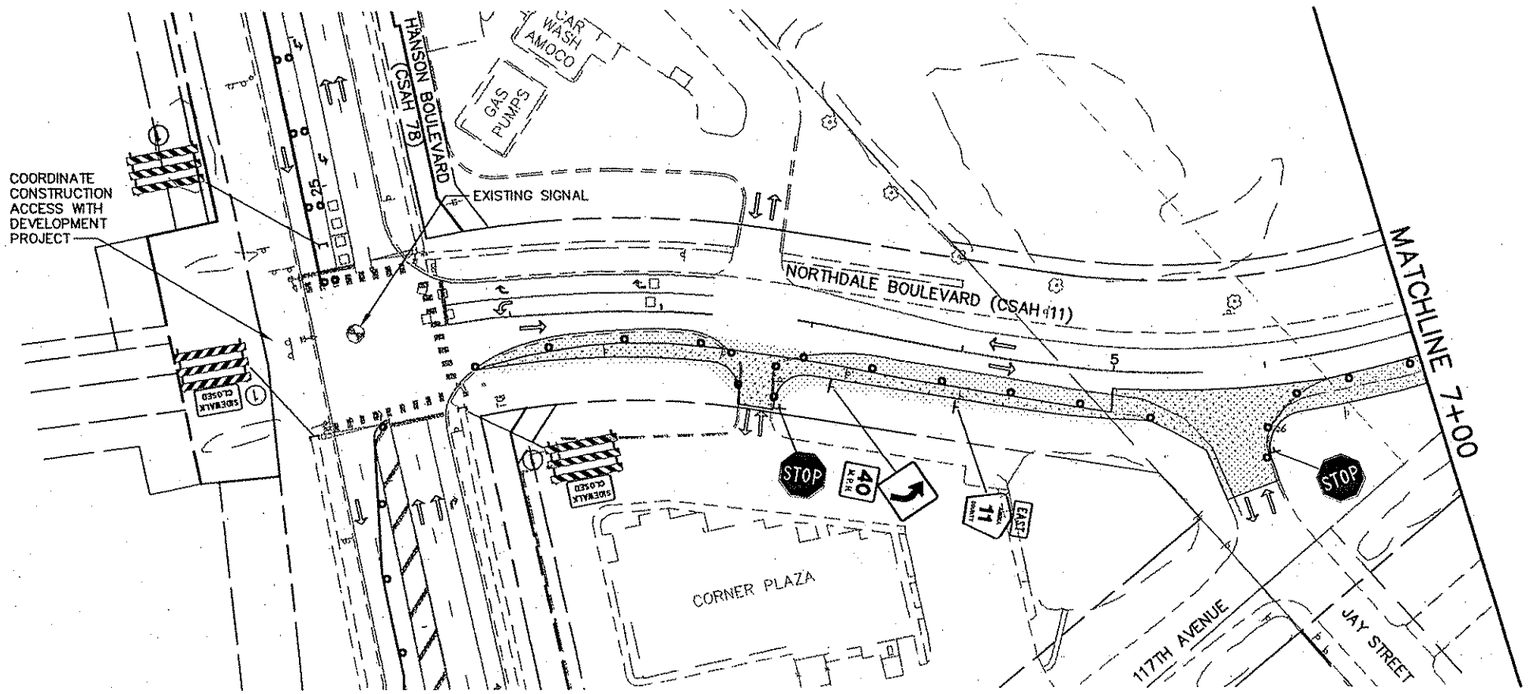
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 2A
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 344 / 681

PLOT DATE: Jan 07 12:43pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\ 3.dwg



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
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REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC77
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 2A
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 345 / 681

PLOT DATE: Jan 07 12:43pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 dwg

Xref'd Drawings
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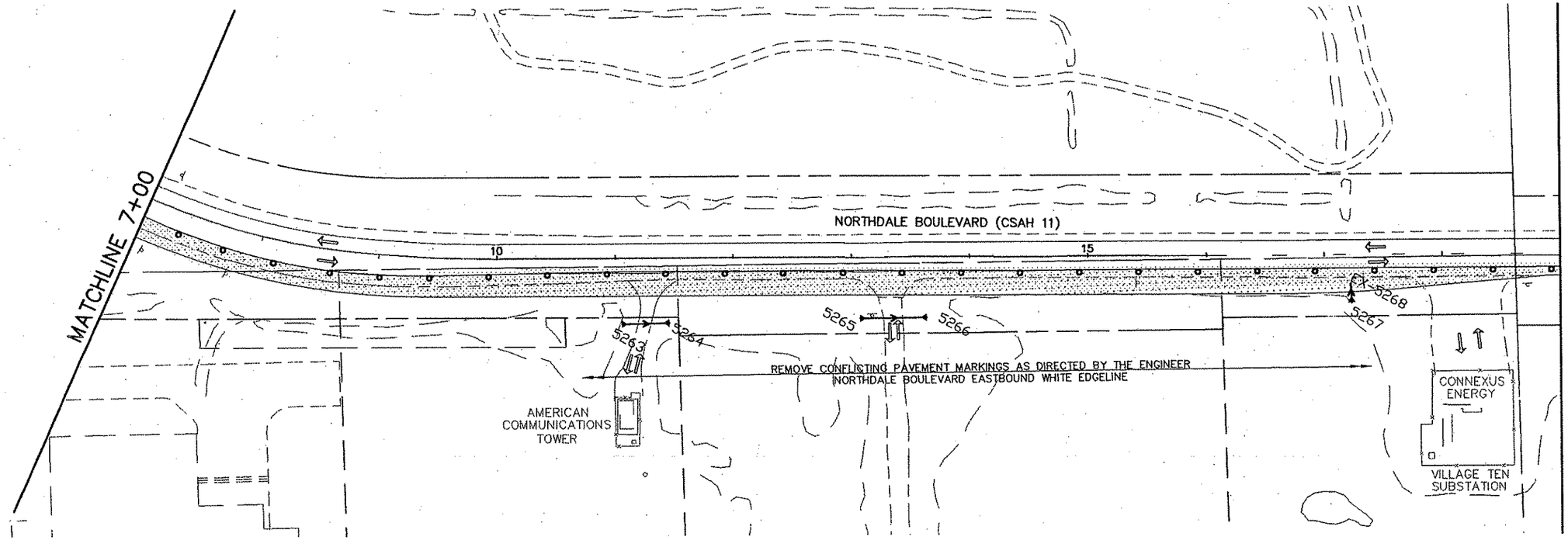
:-S1P2a
:TG1P2a
:-striping
:TG1P2A_MASK
:12TCNOTES
:SN-ETC
:SN-ALL
:F-DWG
:SN-E
:x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC77A
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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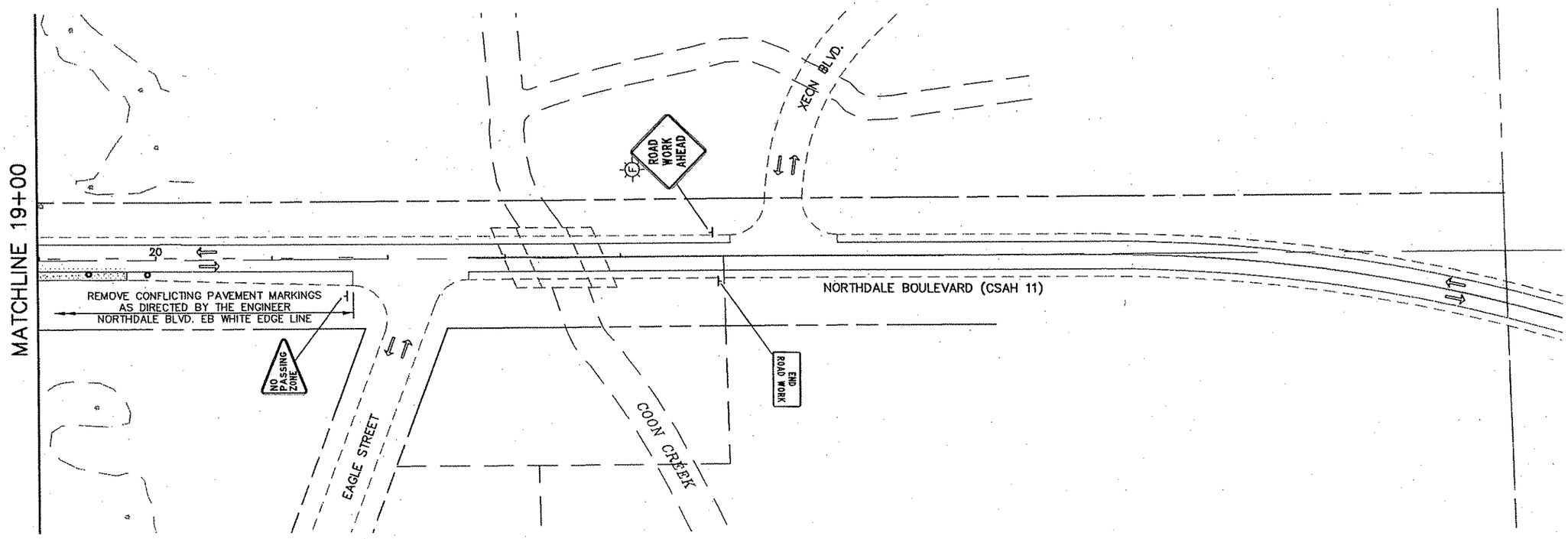
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19881

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 1 PHASE 2A
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 346 / 681

PLOT DATE: Jan 07 12:43pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1\0



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
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REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC77B
DATE: JANUARY 8, 2006

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

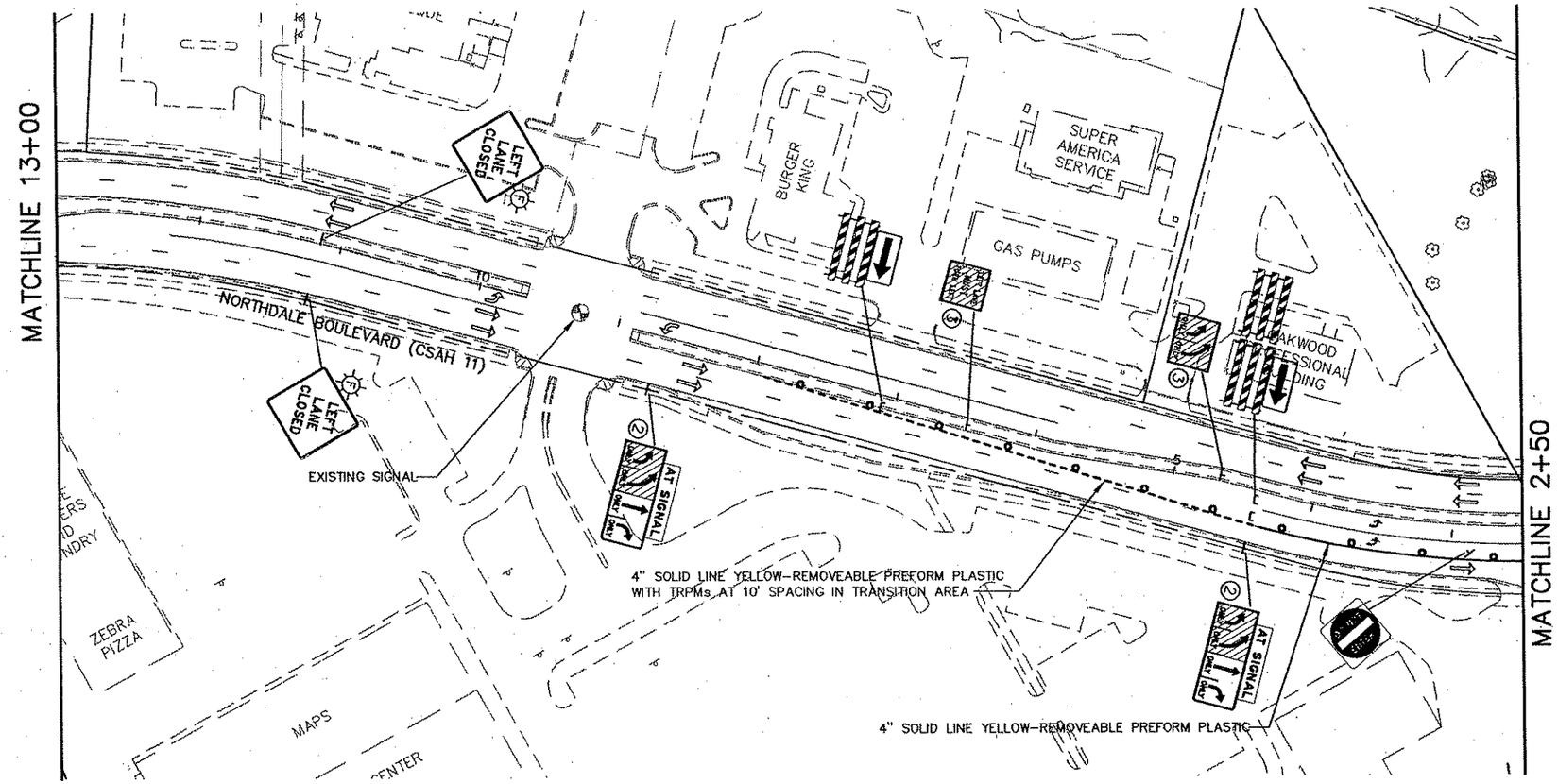
STAGE 1 PHASE 2A
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 347 / 681

PLOT DATE: Jan 7 12:43pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 B.dwg

Xref'd Drawings
rl-keel-sig
:TG1P2A
:-S1P2ASGN
:-S1P2A
:2TCNOTES
-striping
ISN-ETC
ISN-ALI
F-DWG-BDR
ISN-ES
x34b



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
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10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

NORTH

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC78
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

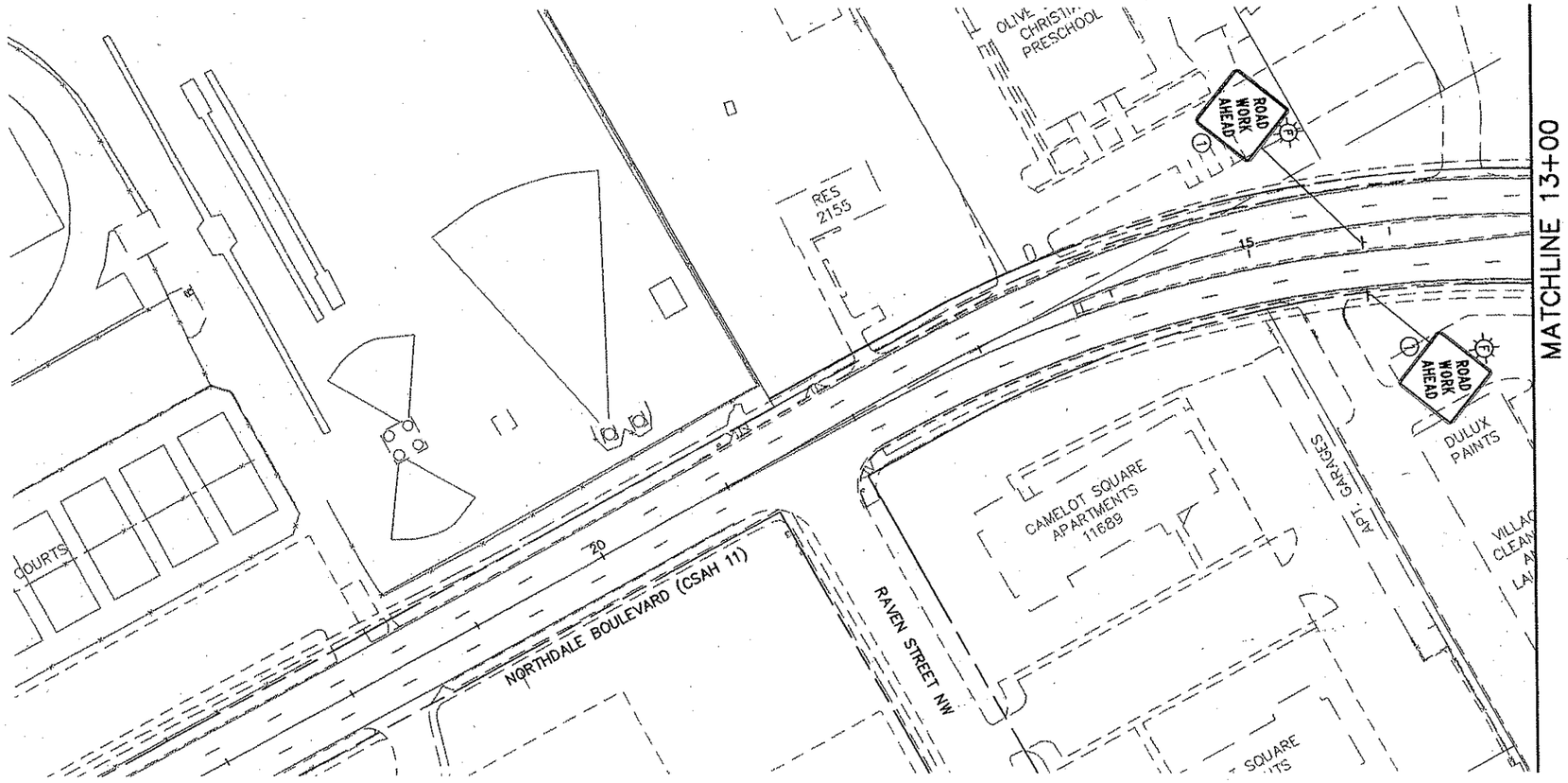
STAGE 1 PHASE 2A
SOUTH NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 348 / 681

PLOT DATE: Jan 07 12:44pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1\

Xref'd Drawings
rt-keel-sig
TG1P2A
-S1P2ASGN
-S1P2A
2TCNOTES
-striping
ISN... ETO



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC79
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

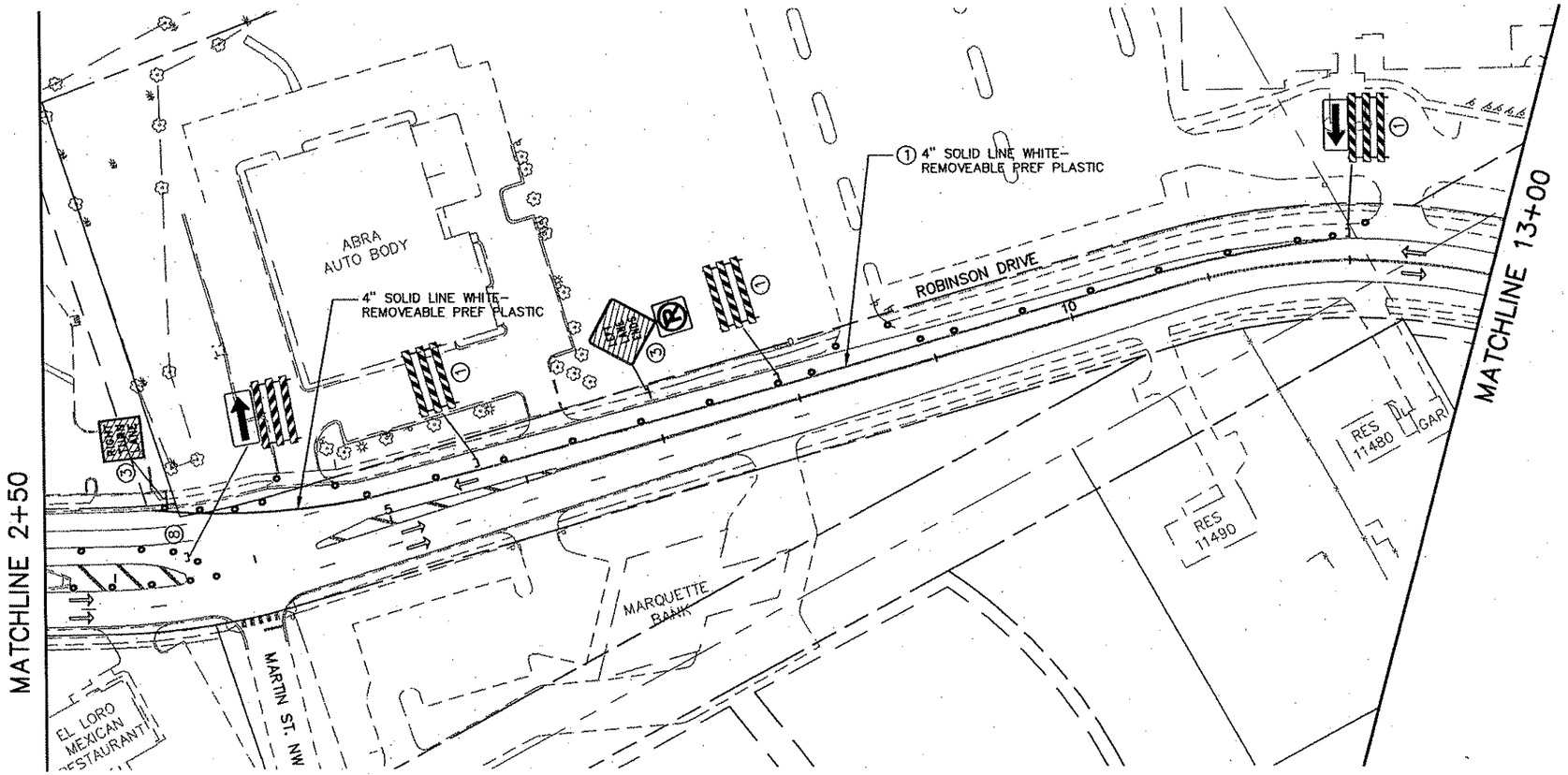
STAGE 1 PHASE 2A
SOUTH NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 349 / 681

PLOT DATE: Jan 07 12:44pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0...dwg

Xref'd Drawings
rl-keel-sig
TG1P2A
-S1P2ASGN
-S1P2A
2TCNOTES
-striping
ISN-ETO
ISN-ALI
F-DWG-BDR
ISN-ES
x34bd



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC80
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

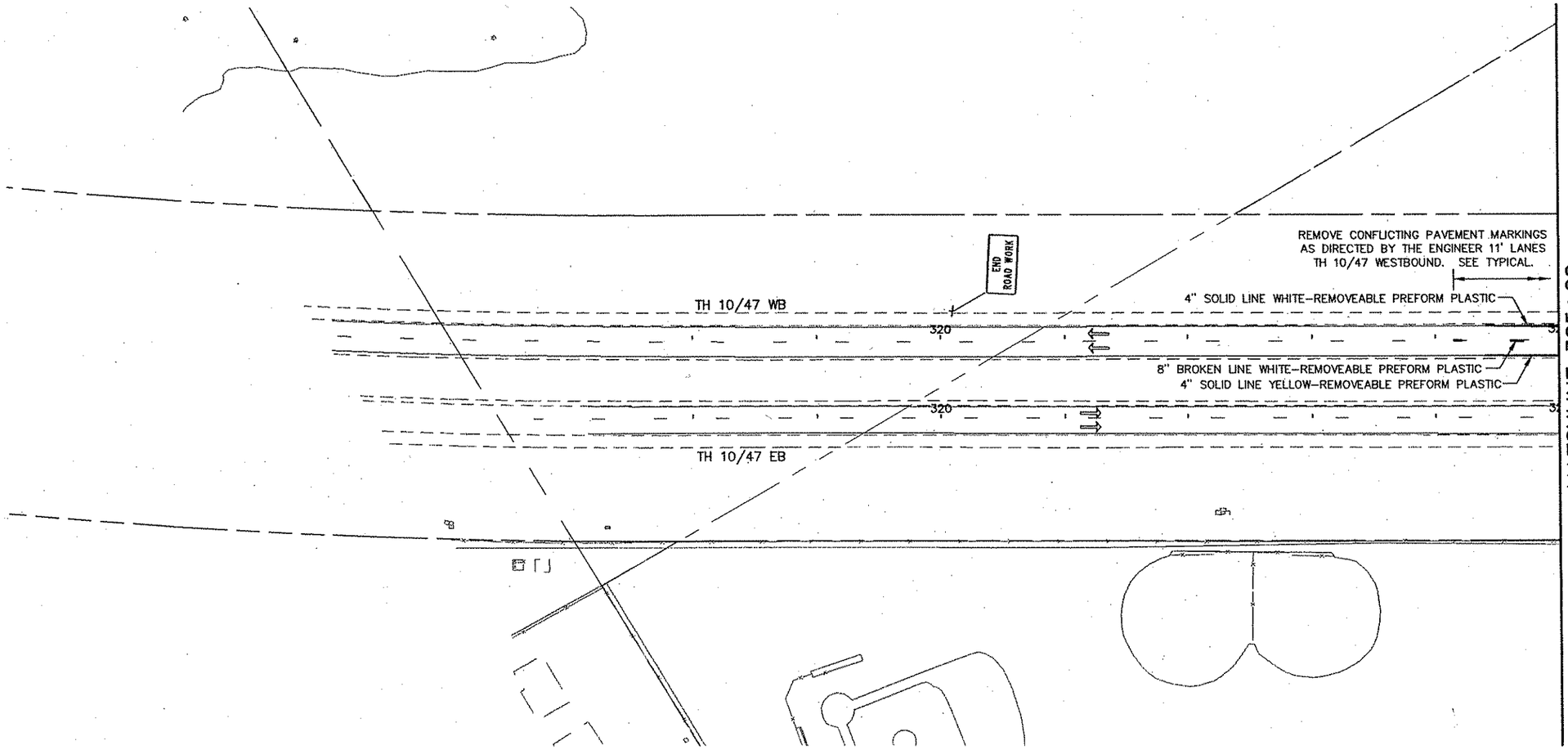
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 1 PHASE 2A
ROBINSON DRIVE

CITY PROJECT 01-31	S.P. 0215-59	SHEET NO.	350
S.P. 02-678-17	S.P. 02-611-29		681
	S.P. 114-020-28		
	S.P. 114-010-14		

PLOT DATE: Jan 07 12:44pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC82
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 2 PHASE 1
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 351 / 681

PLOT DATE: Jan 007 12:44pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\ 2.dwg

Xref'd Drawings
rl-keel-sig
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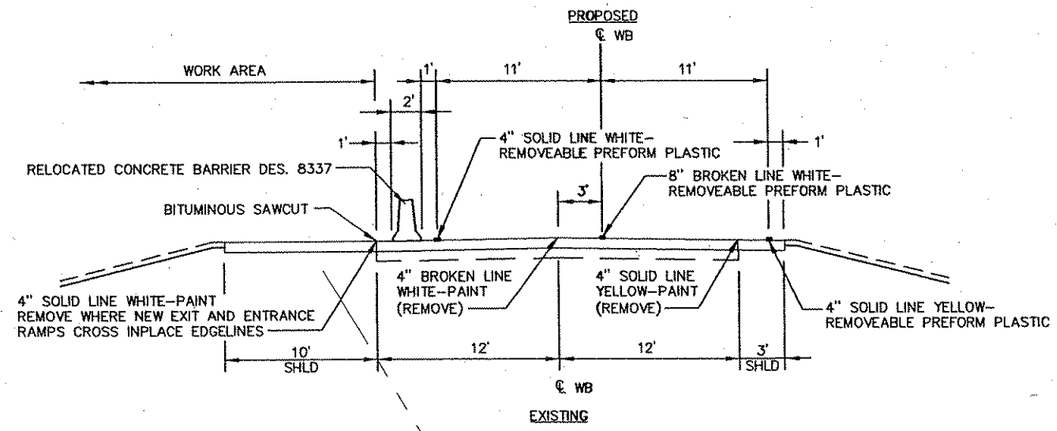
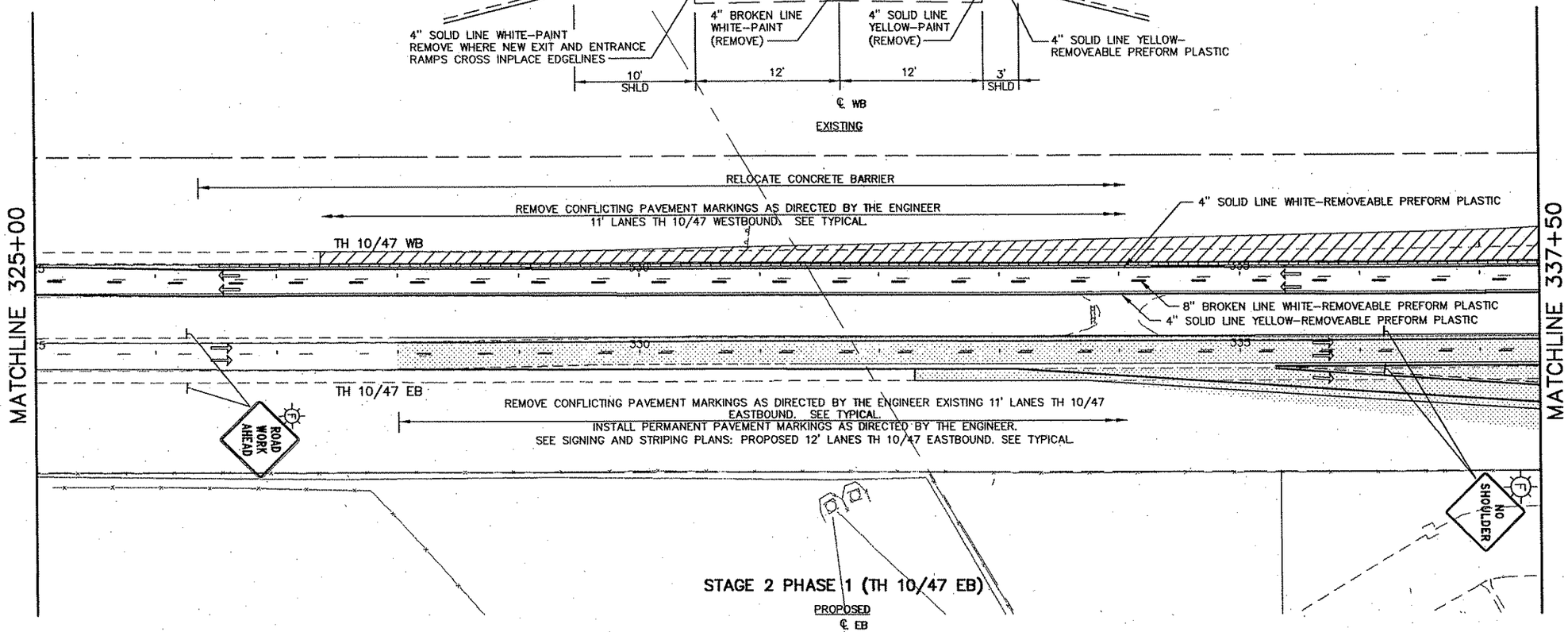
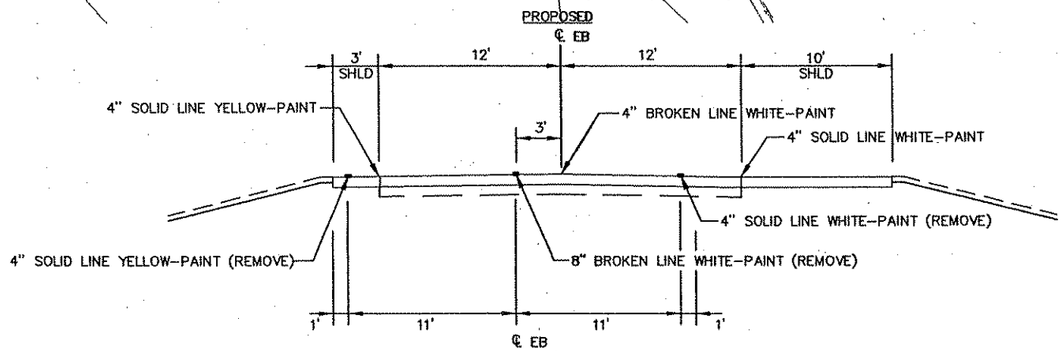
P1PVTMAR
-S2P1SGN
-S2P1
TG1P2A-PCO
TG1P2A_MASK
2TCNOTES
ISN-ETO
ISN-A
F-DW
ISN-E
x34bdr

STAGE 2 PHASE 1 (TH 10/47 WB)





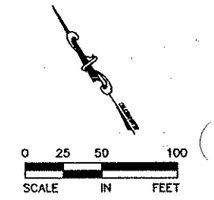
STAGE 2 PHASE 1 (TH 10/47 EB)



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1–800–769–3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION



NOTE: REINSTALL SIGNS AS SHOWN IN STAGE 1 PHASE 1A "MODIFY INPLACE SIGNS"

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC83
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

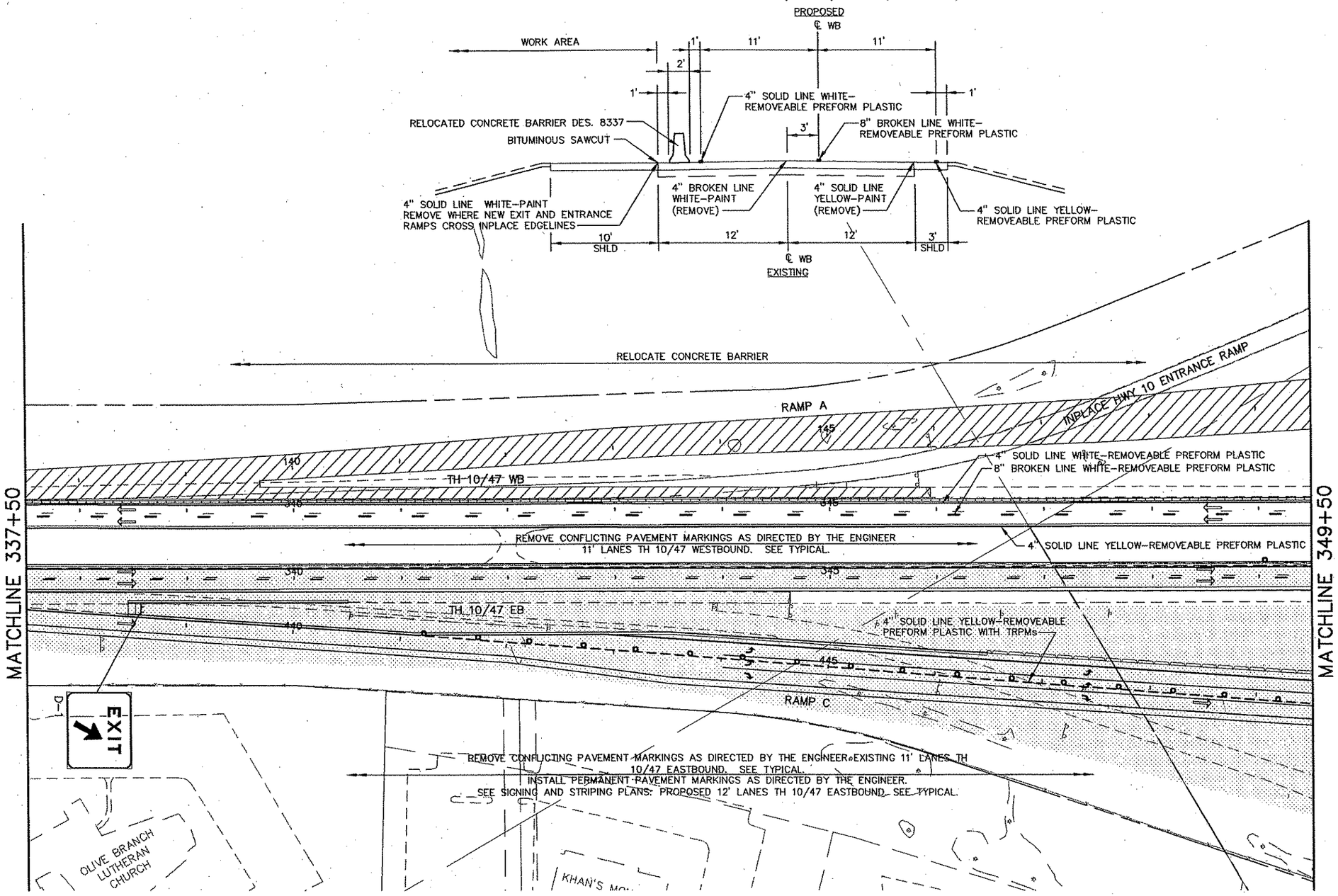
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 2 PHASE 1
T.H. 10/47

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 352 / 681

PLOT DATE: Jan 07 12:44pm DISK FILE NAME: (16:1) R:\33869\33889042\PLAN-SHT\TRAF-CONT-STAGE\0[illegible].dwg

STAGE 2 PHASE 1 (TH 10/47 WB)



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC84
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 2 PHASE 1
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 353 / 681

PLOT DATE: Jan 07 12:44pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 .dwg

Xref'd Drawings
r|-keel-sig
:TG2P1
:P1PVTMAR
-S2P1SGN
-S2P1
:TG1P2A-PCD
:TG1P2A_MASK
:2TGNOTES
ISN-ETO
ISN-AU
F-DW
ISN-E
x34bdr

MATCHLINE 349+50

MATCHLINE 361+50

INPLACE HWY 10 ENTRANCE RAMP

RAMP CLOSED BEGINNING MM/DD/YY

INPLACE HWY 10 EXIT RAMP

RAMP B

RAMP A

METRO MOLDED PARTS

JAY STREET

RAMP CLOSED BEGINNING MM/DD/YY

RELOCATE CONCRETE BARRIER

REMOVE CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER
11' LANES TH 10/47 WESTBOUND. SEE TYPICAL.

65 M.P.H. IMPACT ATTENUATORS

TH 10/47 WB

4" SOLID LINE WHITE-REMOVEABLE PREFORM PLASTIC
8" BROKEN LINE WHITE-REMOVEABLE PREFORM PLASTIC
4" SOLID LINE YELLOW-REMOVEABLE PREFORM PLASTIC

65 M.P.H. IMPACT ATTENUATORS

4" SOLID LINE YELLOW-REMOVEABLE PREFORM PLASTIC WITH TRPMs

REMOVE CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER
EXISTING 11' LANES TH 10/47 EASTBOUND. SEE TYPICAL.
INSTALL PERMANENT PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
SEE SIGNING AND STRIPING PLANS: PROPOSED 12' LANES TH 10/47 EASTBOUND. SEE TYPICAL.

TH 10/47 EB

RAMP C

RAMP D

SIDEWALK CLOSED

BRIDGE CLOSED

4" SOLID LINE YELLOW-REMOVEABLE PREFORM PLASTIC WITH TRPMs

4" SOLID LINE YELLOW-REMOVEABLE PREFORM PLASTIC WITH TRPMs

4" SOLID LINE YELLOW-REMOVEABLE PREFORM PLASTIC WITH TRPMs

* INSTALL 7 DAYS PRIOR TO CONSTRUCTION

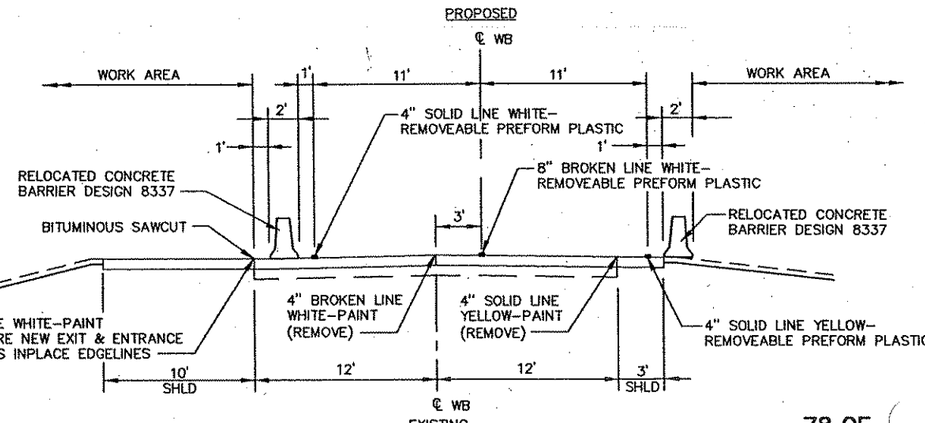
LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 1 (TH 10/47 WB)



78 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC85
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

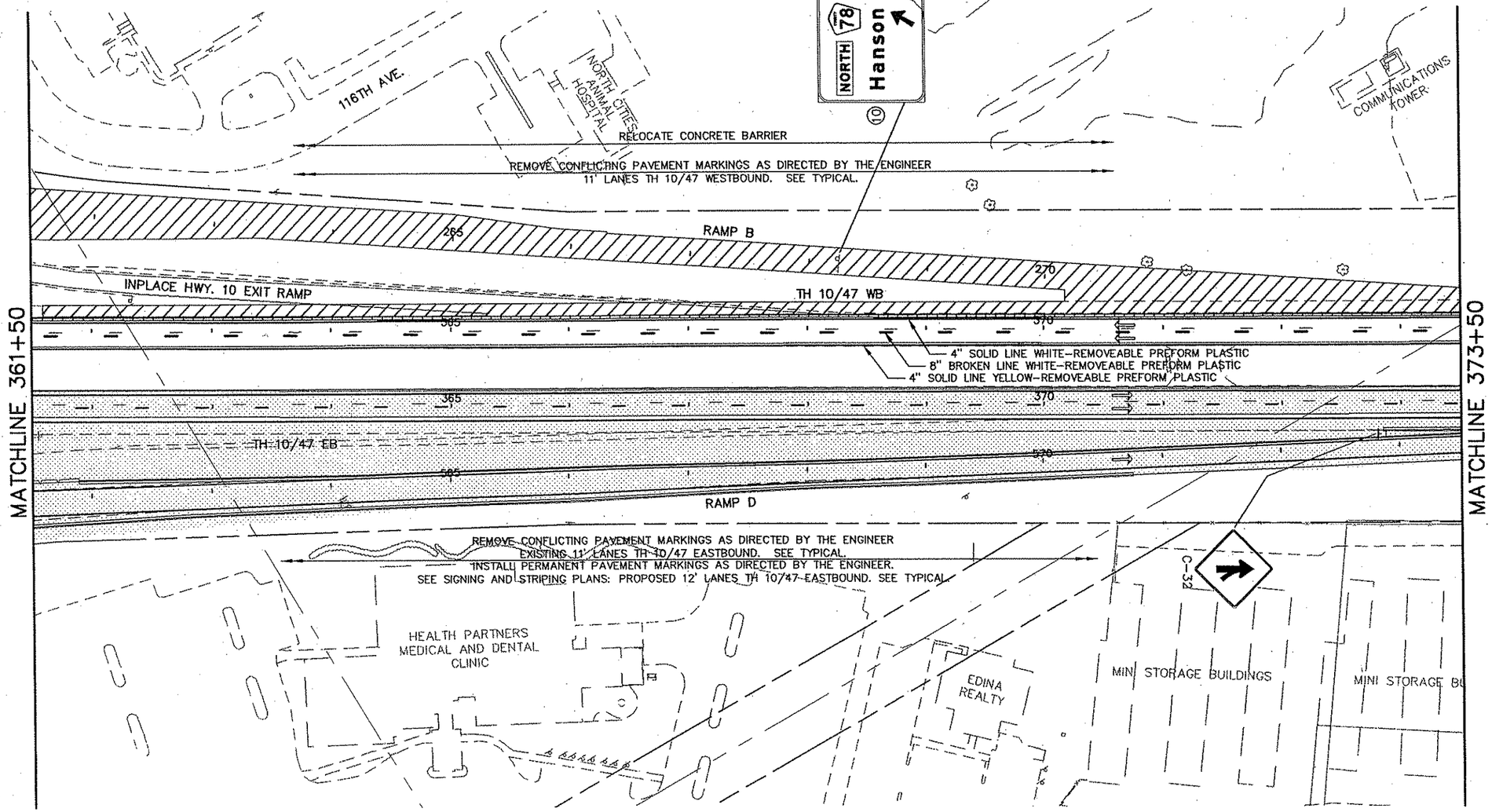
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 2 PHASE 1
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 354 / 681

PLOT DATE: Jan 07 12:45pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\ .dwg

Xref'd Drawings
rl-keel-sig
:TG2P1
:P1PVTMAR
:-S2P1SGN
:-S2P1
:TG1P2A-PCD
:TG1P2A_MASK
ISN-ES
:x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC86
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

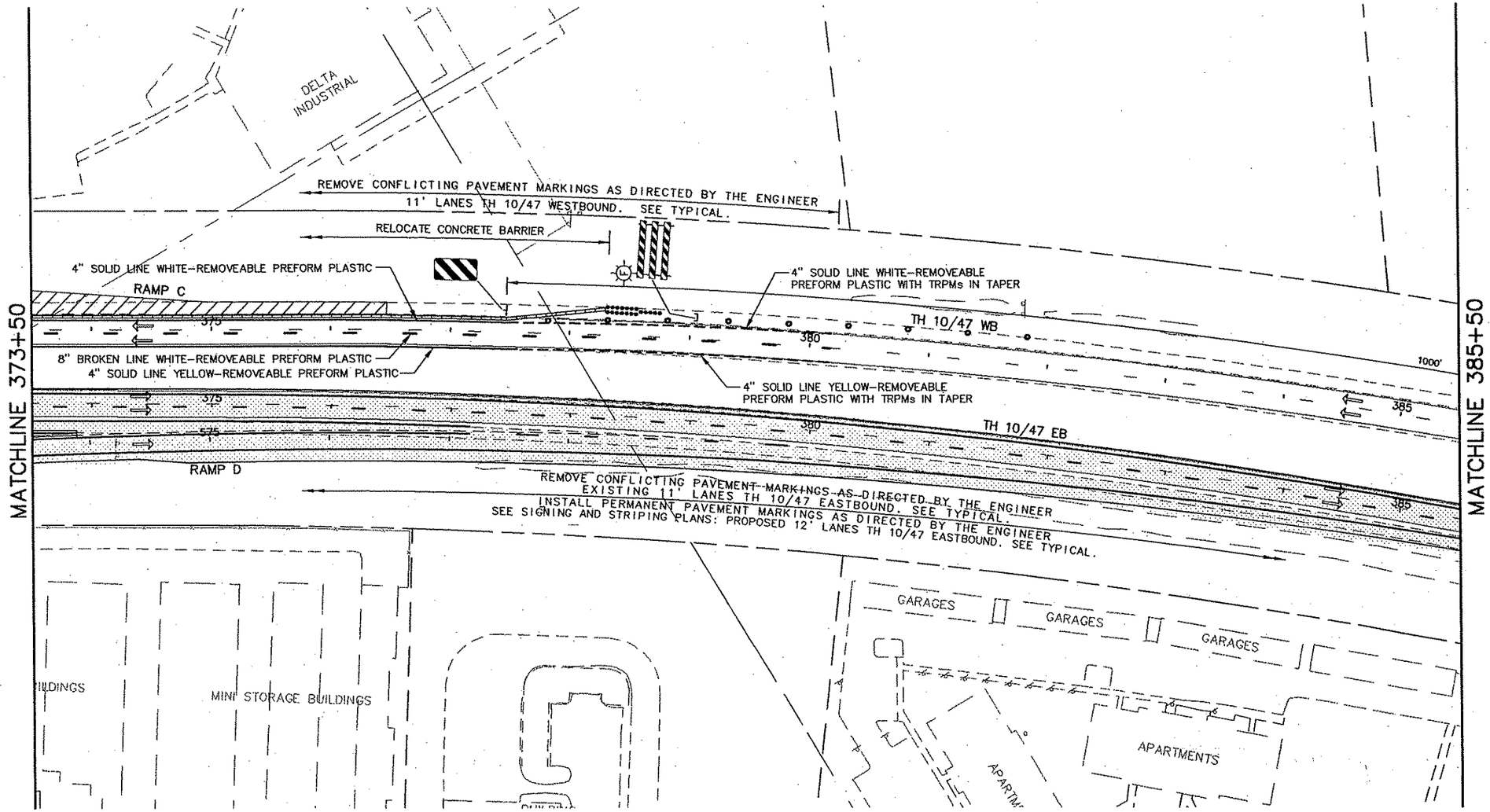
STAGE 2 PHASE 1
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 355 / 681

PLOT DATE: Jan 07 12:45pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE 02.dwg

Xref'd Drawings
rl-keel-sig
:TG2P1
:P1PVTMAR
-S2P1SGN
>-S2P1
:TG1P2A-PCD
:TG1P2A_MASK
:2TCNOTES
ISN-ETD-
ISN-A
F-DW
ISN-E
:x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

PLOT DATE: Jan 7 12:45pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0...dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC87
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

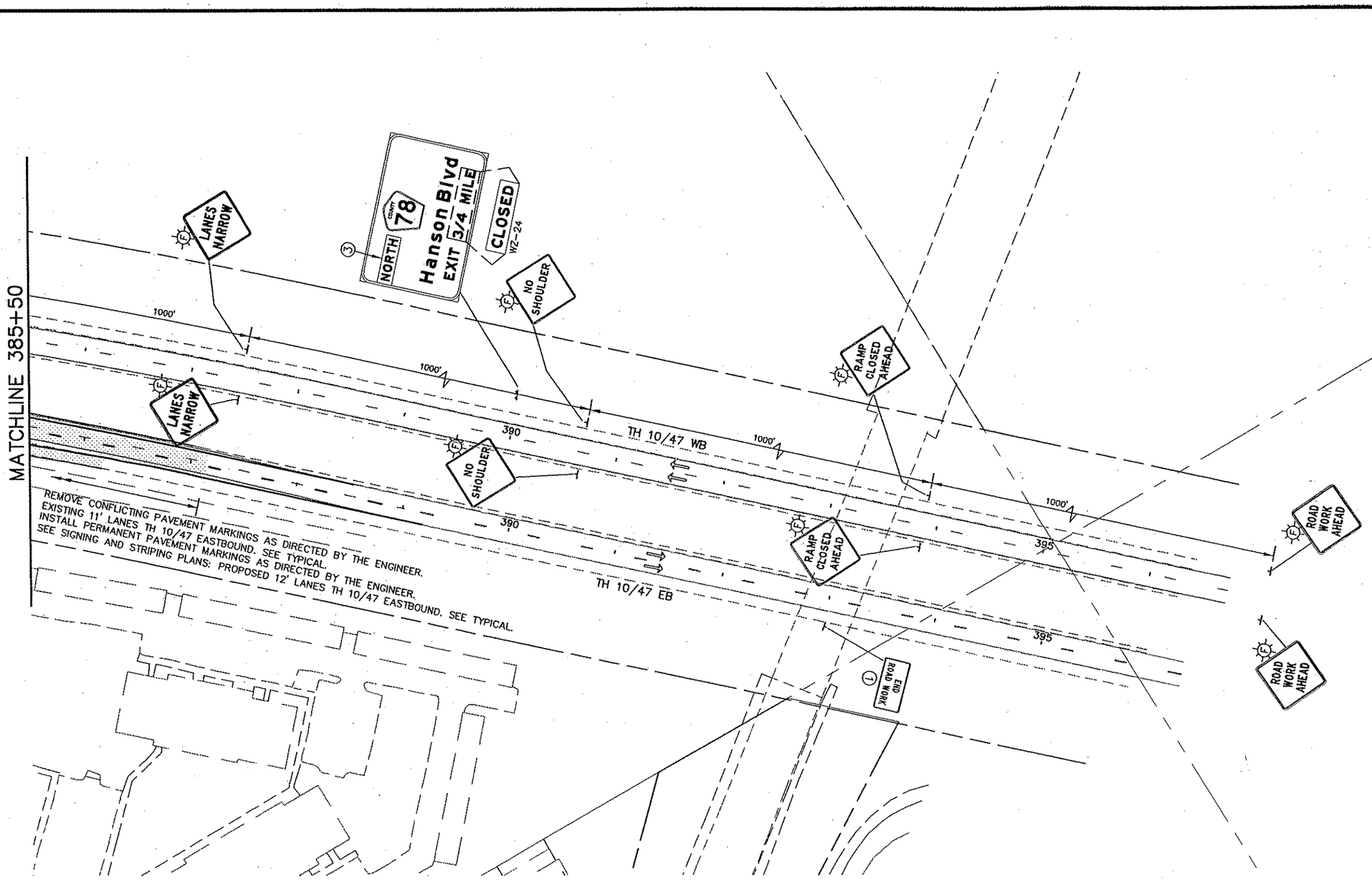
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 2 PHASE 1
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 356 / 681



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

81 OF 113

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC88
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

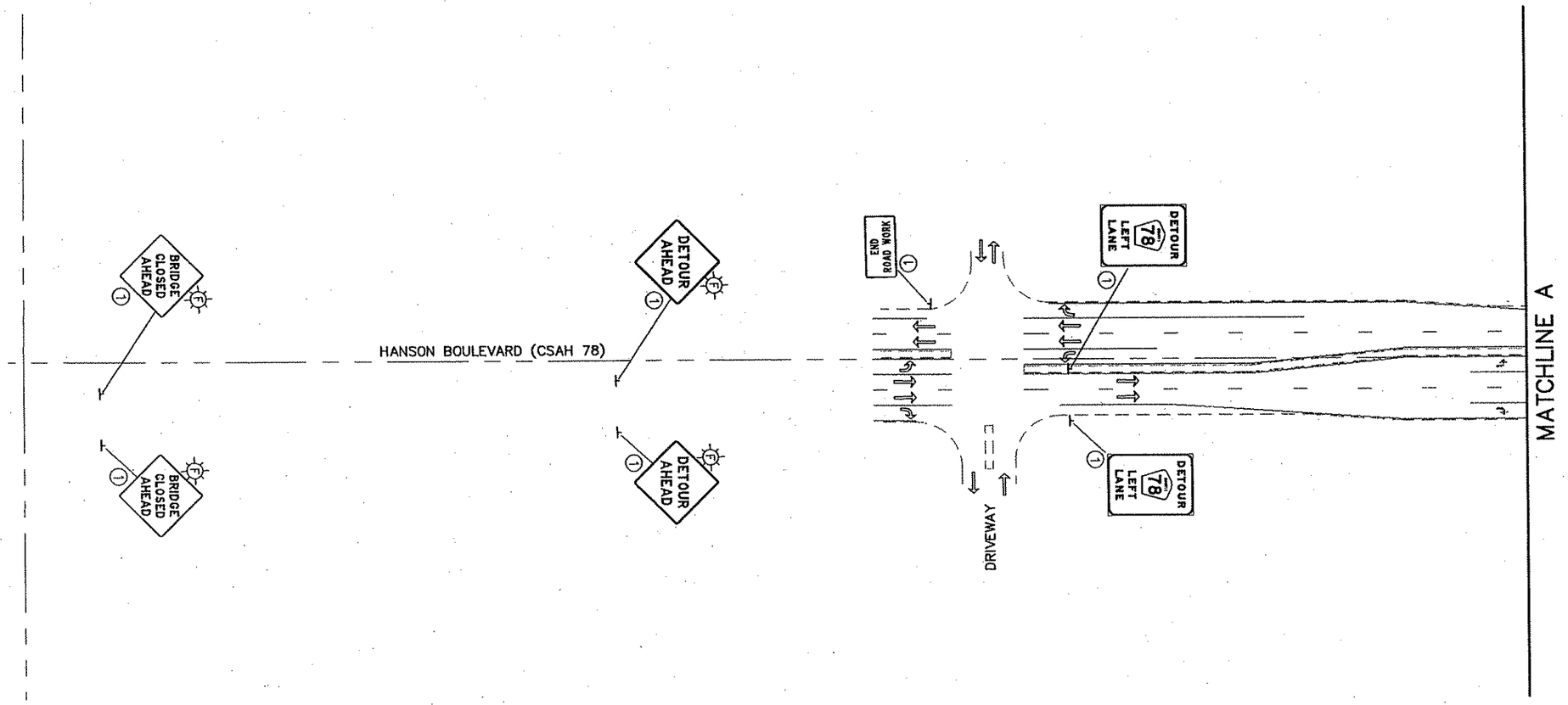
STAGE 2 PHASE 1
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 357 / 681

PLOT DATE: Jan 07 12:45pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 dwg

Xref'd Drawings
rl--keel--sig
:TG2P1
:P1PVTMAR
--S2P1SGN
--S2P1
:TG1P2A--PCO
:TG1P2A_MASK
:2TCNOTES
ISN--ETO
ISN--A
F--DW
ISN--E
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC89
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 2 PHASE 1
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 358 / 681

PLOT DATE: Jan 17 12:45pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 .dwg

Xref'd Drawings
rt-keel-sig
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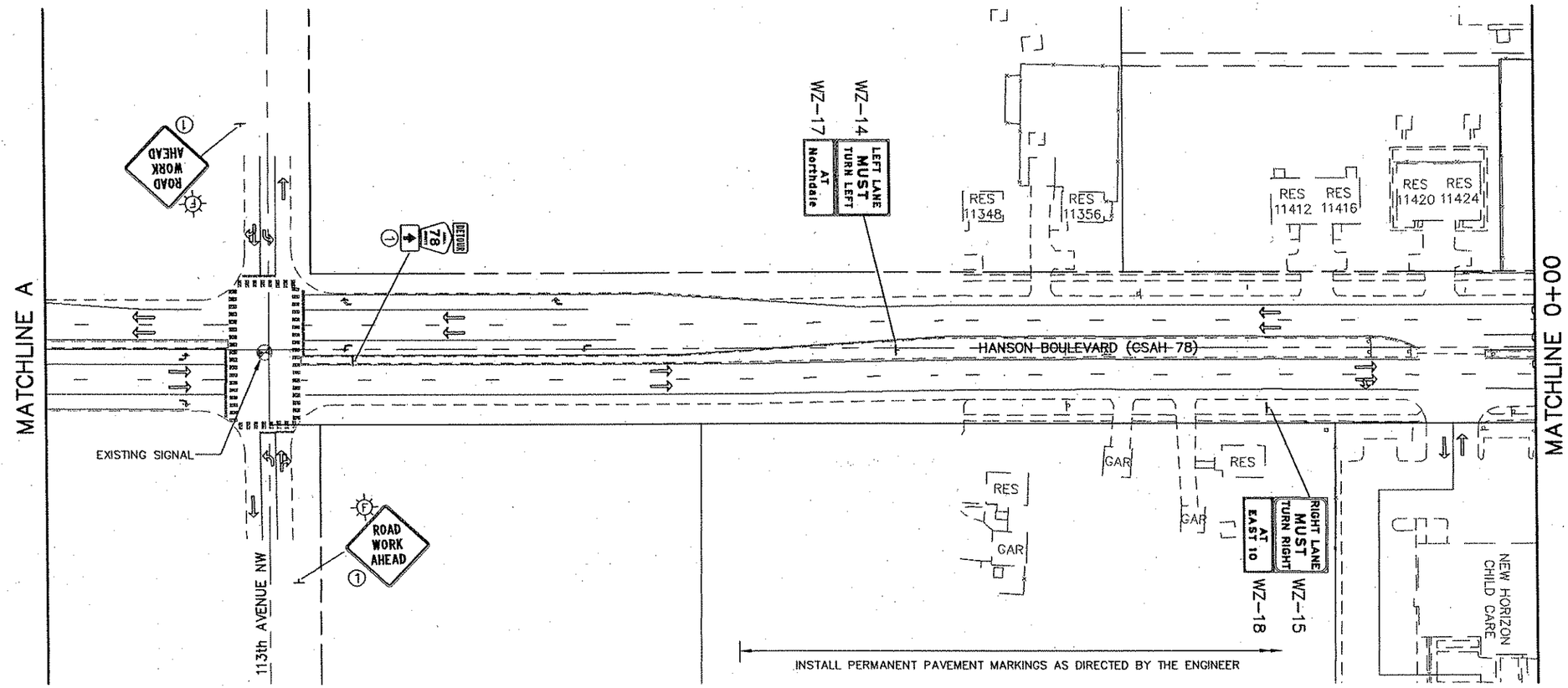
-S2P1SGN
-S2P1
TG1P2A-PCD
TG1P2A_MASK
SN-ES
k34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC90
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 2 PHASE 1
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 359/681

PLOT DATE: Jan 17 12:52pm DISK FILE NAME: (16.1) R:\33689\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 3.dwg

Xref'd Drawings
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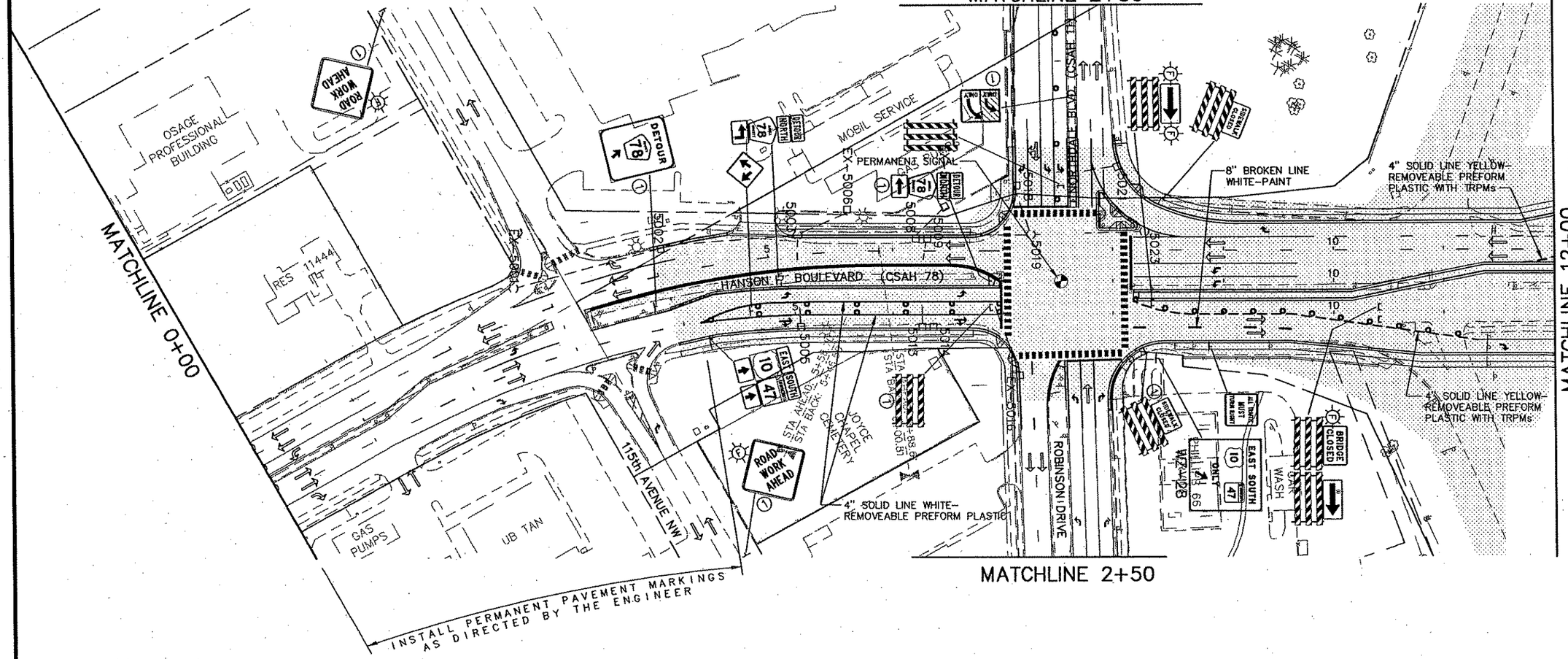
TG2P1_MASK
TG2P1
P1PVTMAR
-S2P1SGN
-S2P1
TG1P2A-PCD
2TCNOTES
ISN-ETO
ISN-AL
F-DW
ISN-E
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

84 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC91
DATE: JANUARY 8, 2006

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

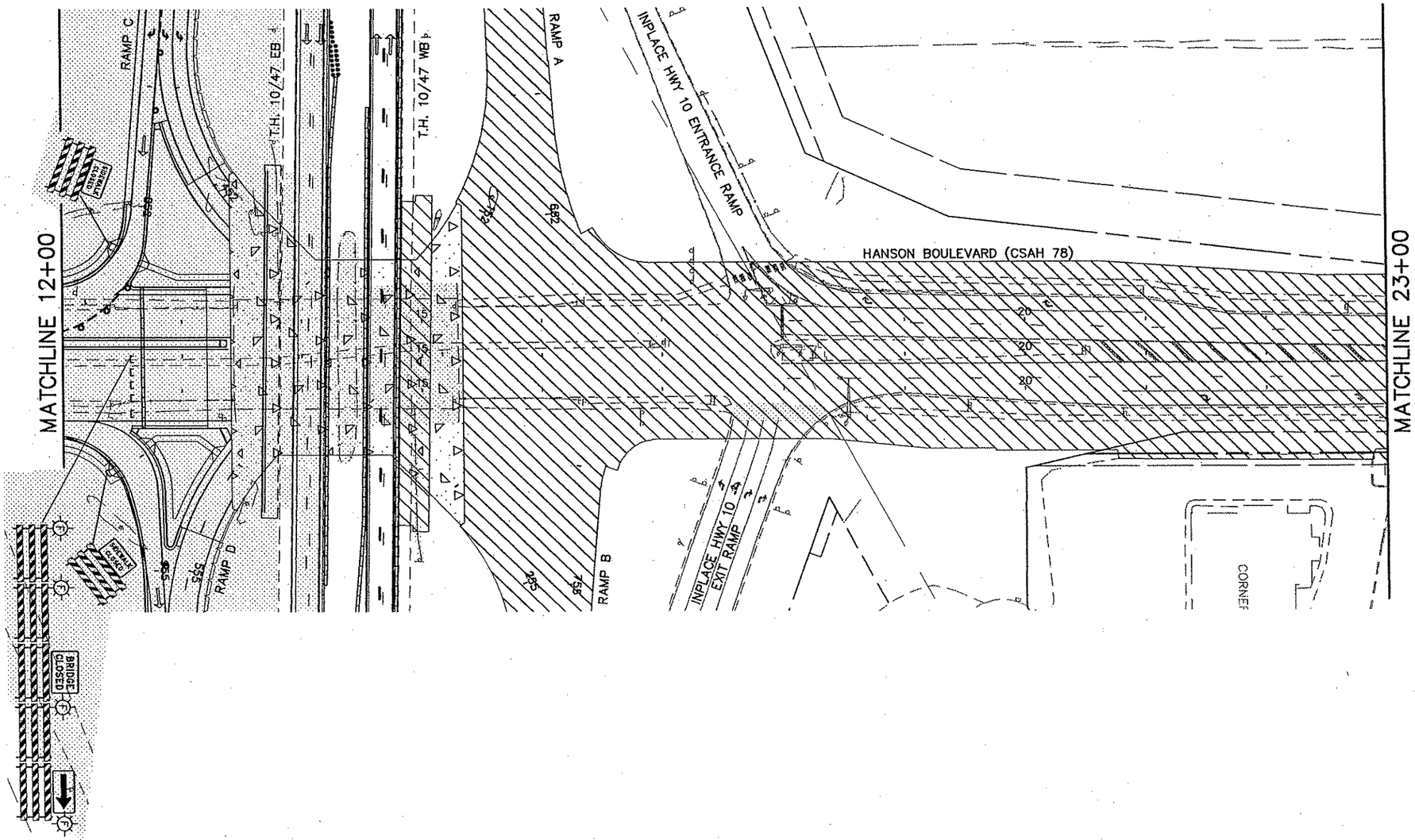
STAGE 2 PHASE 1
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 360 / 681

PLOT DATE: Jan 07 12:52pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\

Xref'd Drawings
rl-keel-slg
D-ESM
TG2P1
P1PVTMAR
-S2P1SGN
-S2P1
TG1P2A-PCD
MASK
SN-ESU
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC92
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

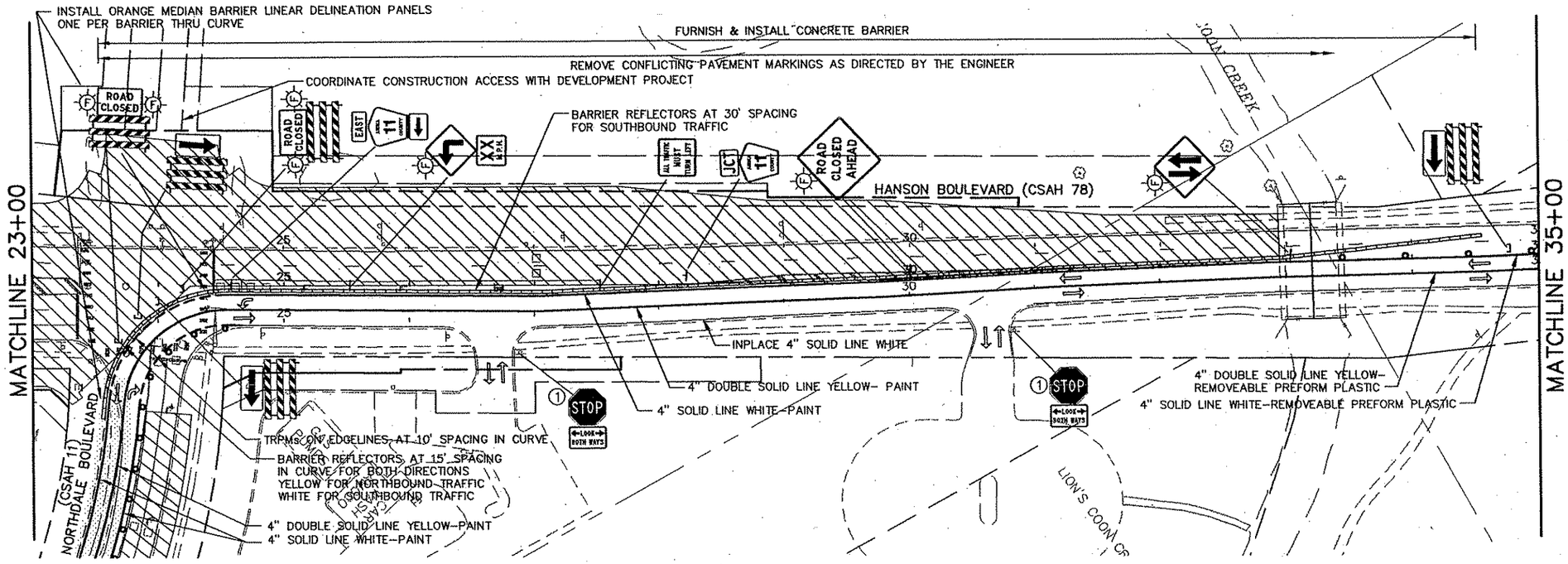
STAGE 2 PHASE 1
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 361 / 681

PLOT DATE: Jan 17 12:52pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0

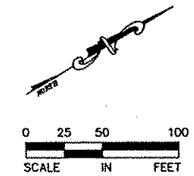
Xref'd Drawings
1-keel-sig
D-ESM
TG2P1_MASK
TG2P1
P1PVTMAR
-S2P1SGN
-S2P1
TG1P2A-PCD
2TCNOTES
ISN-ET
ISN-A
F-DWG
ISN-ESU
x34bdr



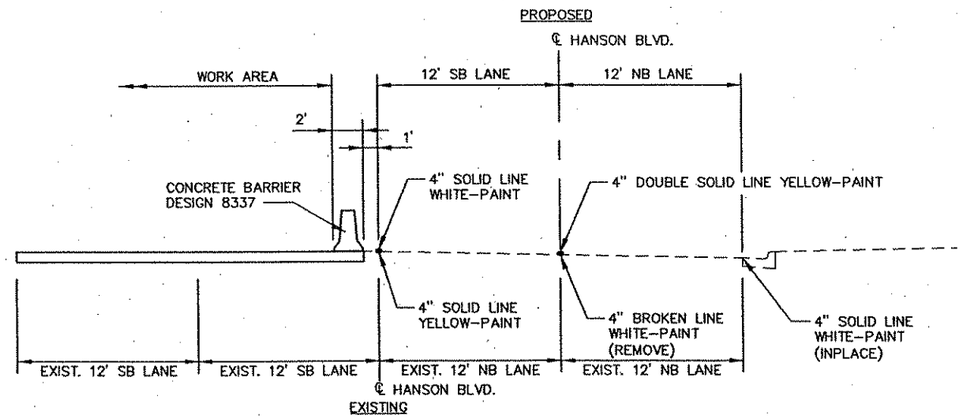
LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION



STAGE 2 PHASE 1 (HANSON BOULEVARD CSAH 78)



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC93
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 2 PHASE 1
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 362 / 681

PLOT DATE: Jan 17 12:52pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1.dwg

Xref'd Drawings
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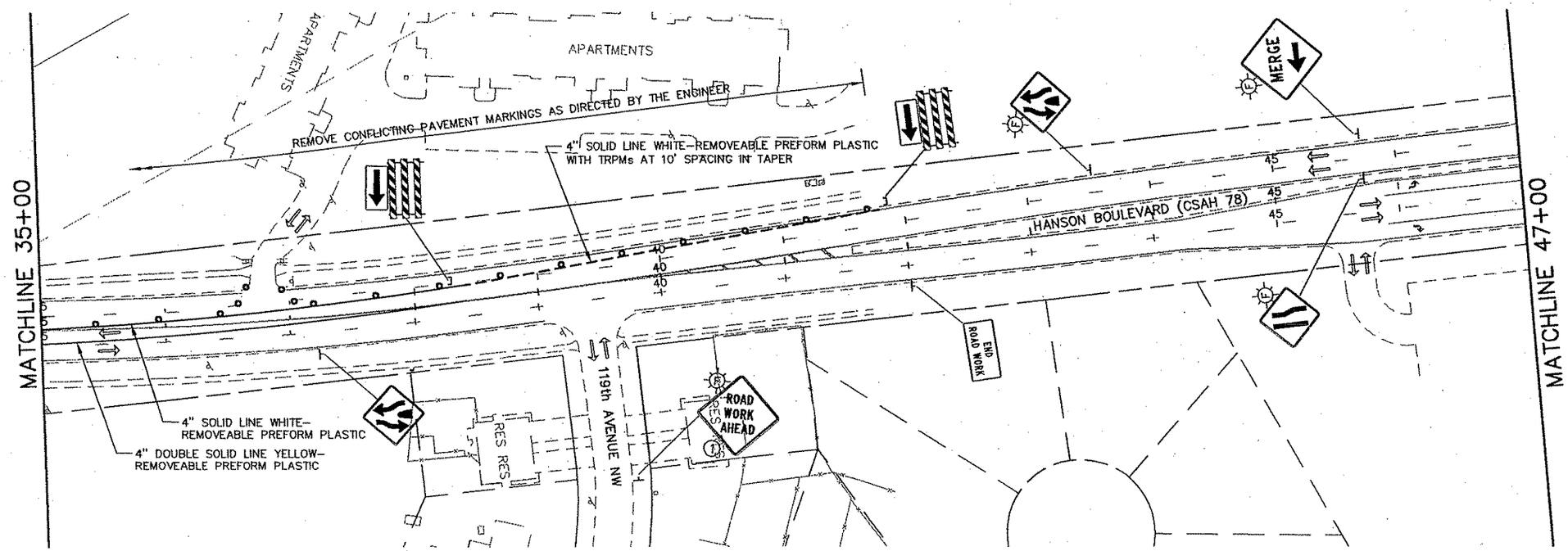
:P1PVTMAR
:-S2P1SGN
:-S2P1
:TG1P2A-PCO
:TG1P2A_MASK
:27 S
IS
IS
F-
ISN-ES
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

NORTH

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC94
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

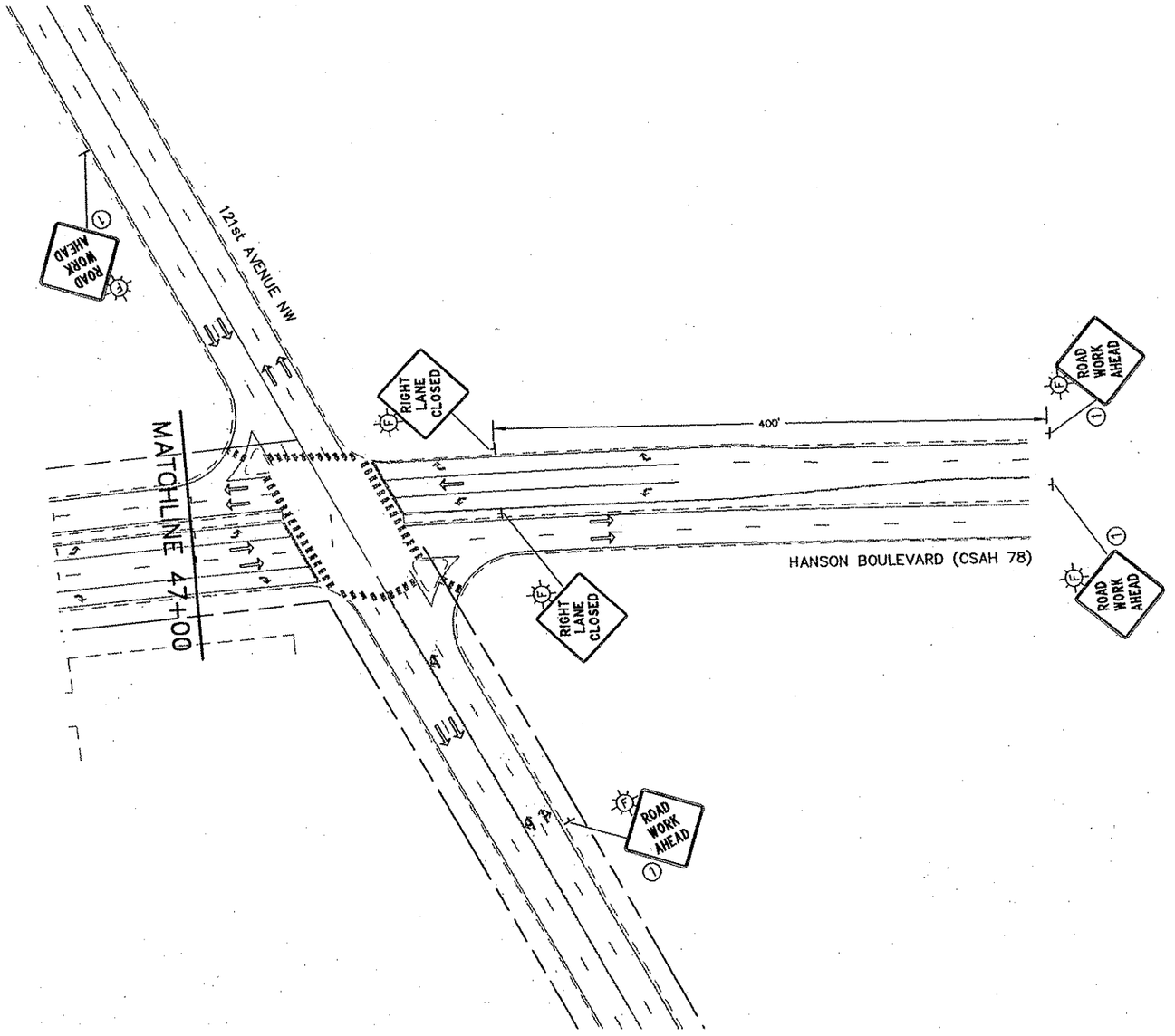
STAGE 2 PHASE 1
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 363 / 681

PLOT DATE: Jan 07 12:53pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\G

Xref'd Drawings
rf-keel-sig
:TG2P1
:P1PVTMAR
:-S2P1SGN
:-S2P1
:TG1P2A-PCO
:TG1P2A_MASK
:2TCNOTES
:SN-ETO
:SN-A
:F-DW
:SN-E
:x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC95
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

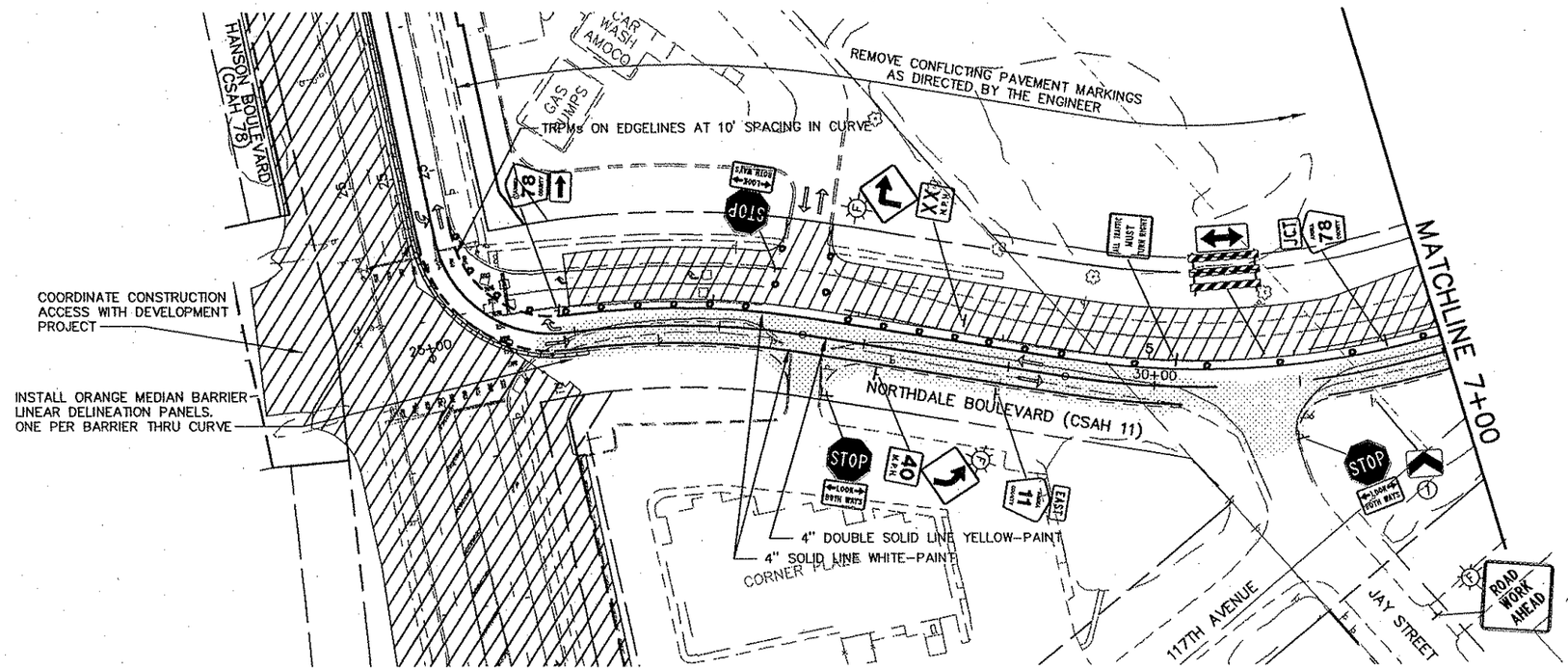
STAGE 2 PHASE 1
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

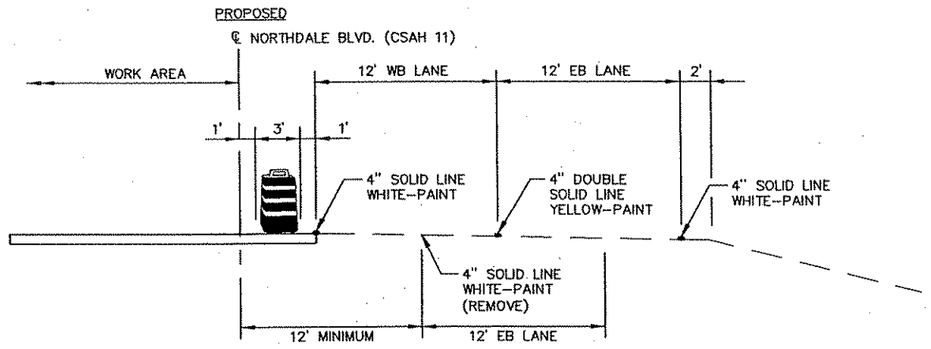
SHEET NO. 364 / 681

PLOT DATE: Jan .07 12:53pm DISK_FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0

Xref'd Drawings
rl-keel-sig
D-ESM
TG2P1_MASK
TG2P1
P1PVTMAR
S2P1SGN
S2P1
-PCD
ISN-
F-DWL
ISN-ESU
x34bdr



STAGE 2 PHASE 1 (NORTHDALE BOULEVARD CSAH 11)



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC96
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

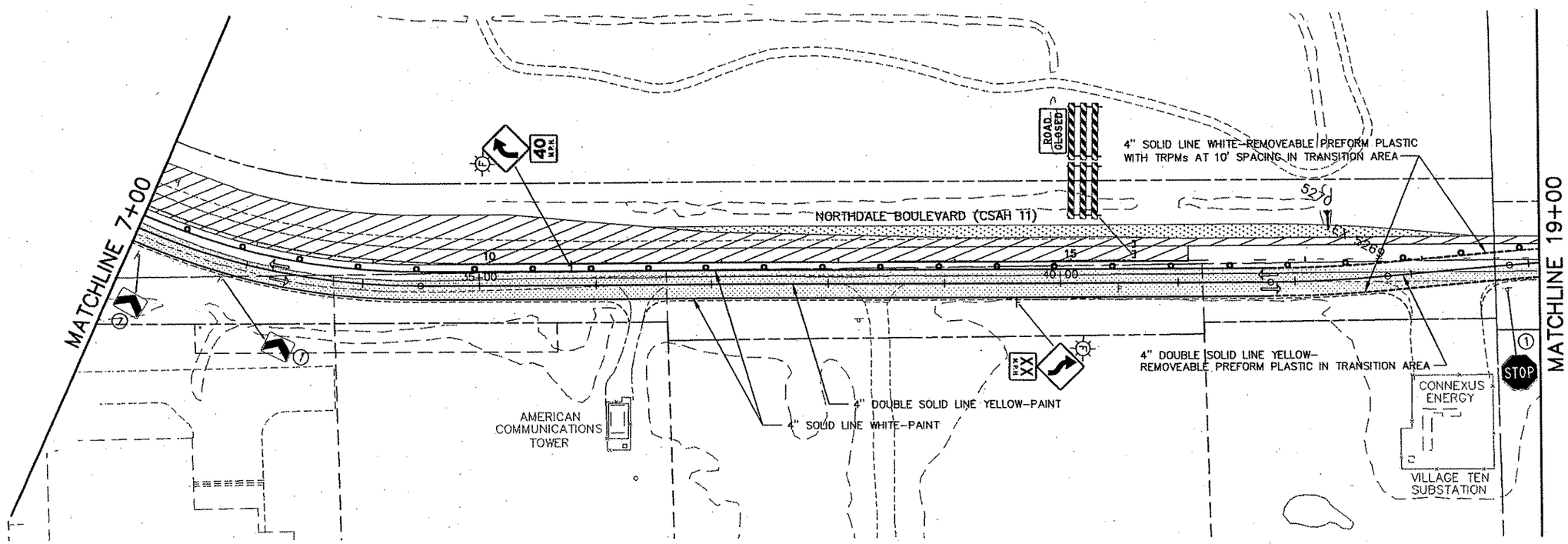
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 2 PHASE 1
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 365 / 681

PLOT DATE: Jan 07 12:53pm DISK FILE NAME: (16.1) R:\33889\338890042\PLAN-SHT\TRAF-CONT-STAGE\0[illegible].dwg

Xref'd Drawings
rl-keel-sig
TG2P1
P1PVTMAR
-S2P1SGN
-S2P1
TG1P2A-PCO
TG1P2A_MASK
2TCNOTES
ISN-ETC
ISN-A
F-DW
ISN-EL
x34bdr

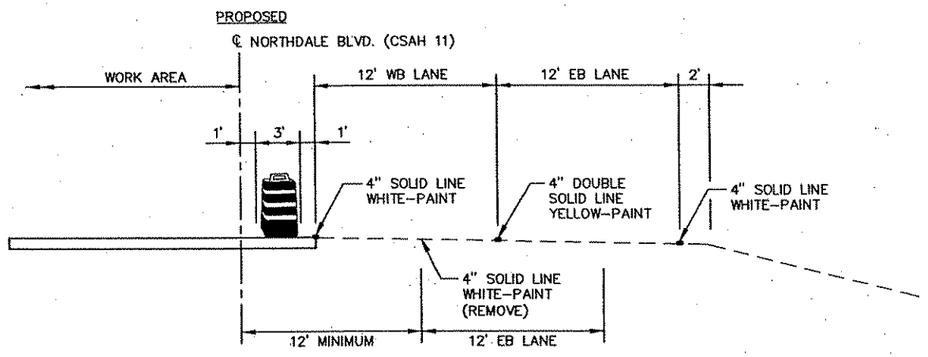


LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

STAGE 2 PHASE 1 (NORTHDALE BOULEVARD CSAH 11)



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC97
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 2 PHASE 1
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 366 / 681

PLOT DATE: Jan 17 12:53pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0[illegible].dwg

Xref'd Drawings
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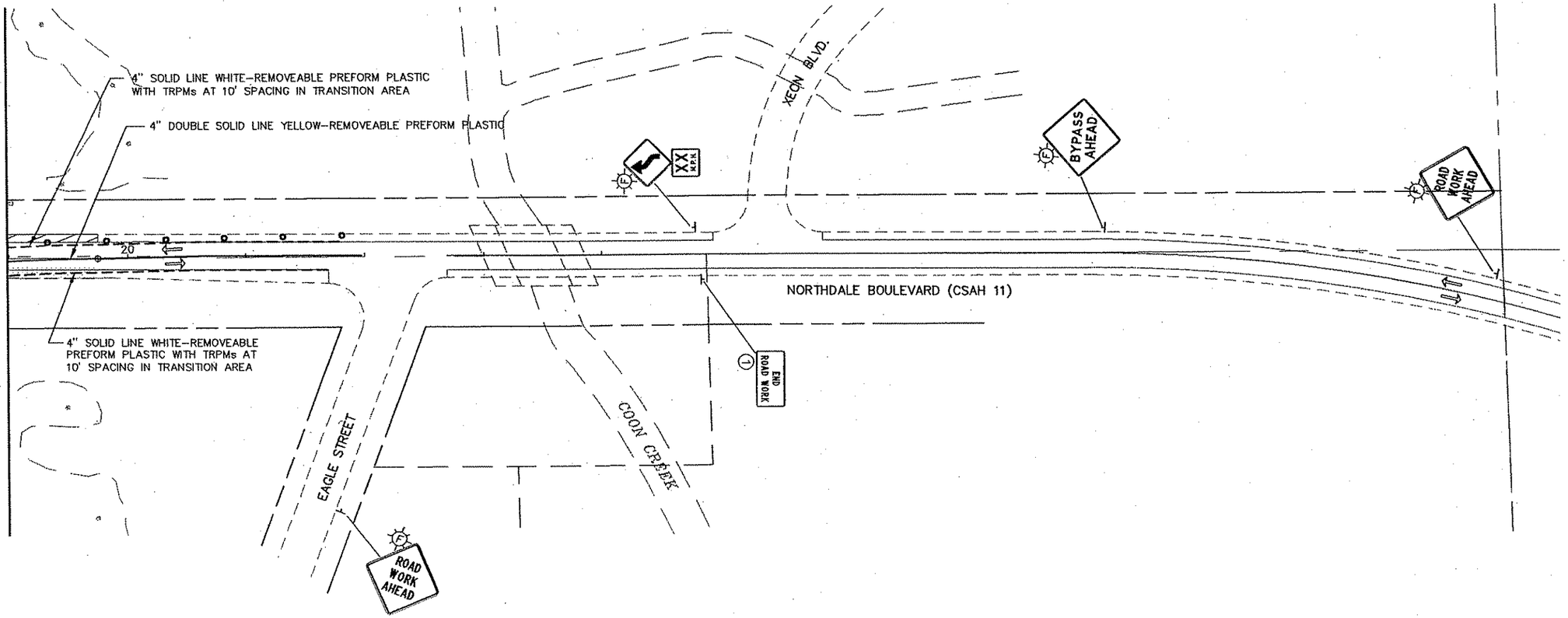
P1PVTMAR
-S2P1SGN
-S2P1
:TG1P2A-PCO
:TG1P2A_MASK
ISN-ESL
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC98
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

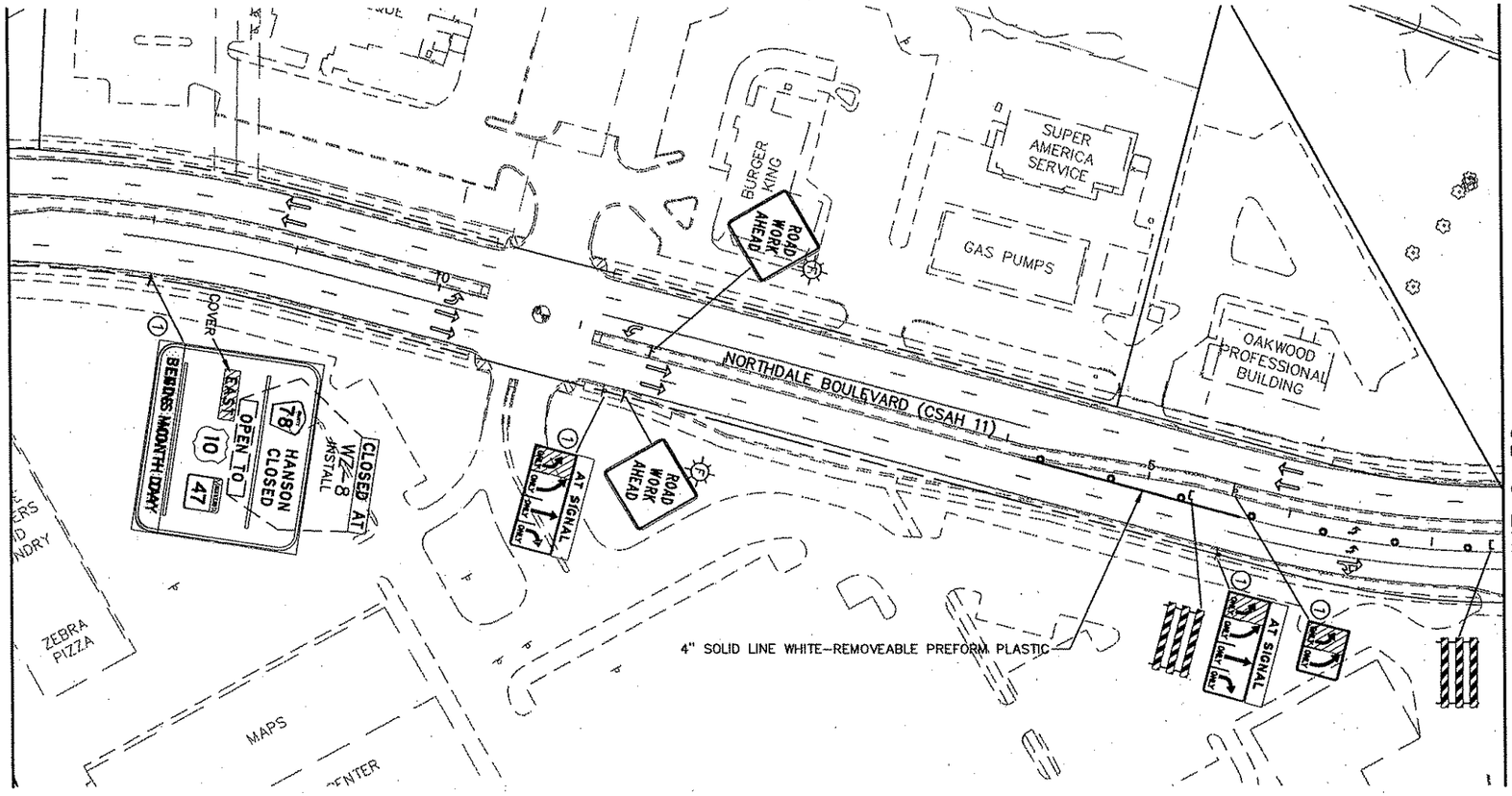
STAGE 2 PHASE 1
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 367 / 681

PLOT DATE: Jan 97 12:53pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0

Xref'd Drawings
rl-keel-sig
TG2P1
P1PVTMAR
-S2P1SGN
-S2P1
TG1P2A-PCD
TG1P2A_MASK
2TCNOTES
ISN-ETO
ISN-AL
F-DW
ISN-ES
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC99
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

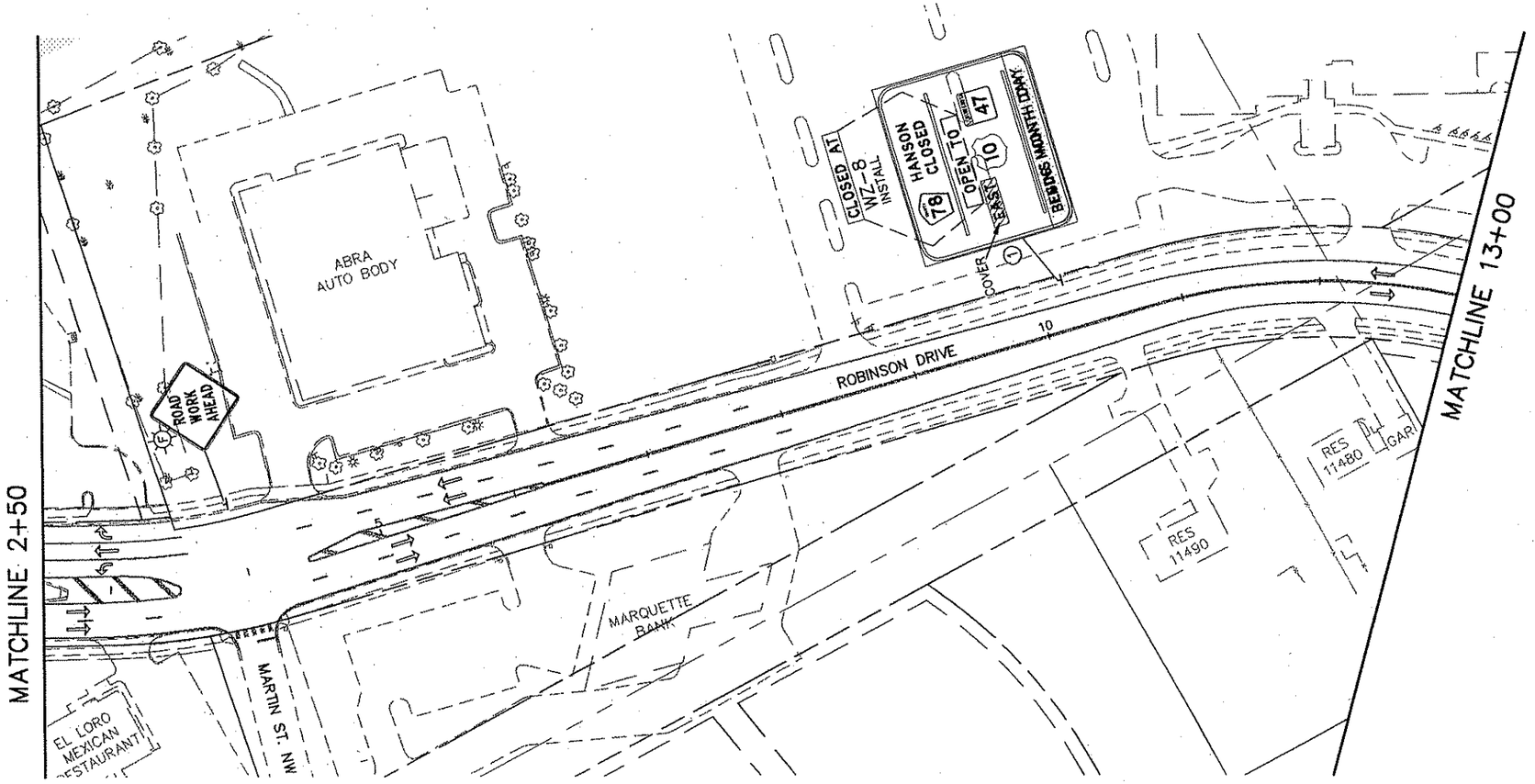
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 2 PHASE 1
SOUTH NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 368 / 681

PLOT DATE: Jan 17 12:53pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 dwg



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC101
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

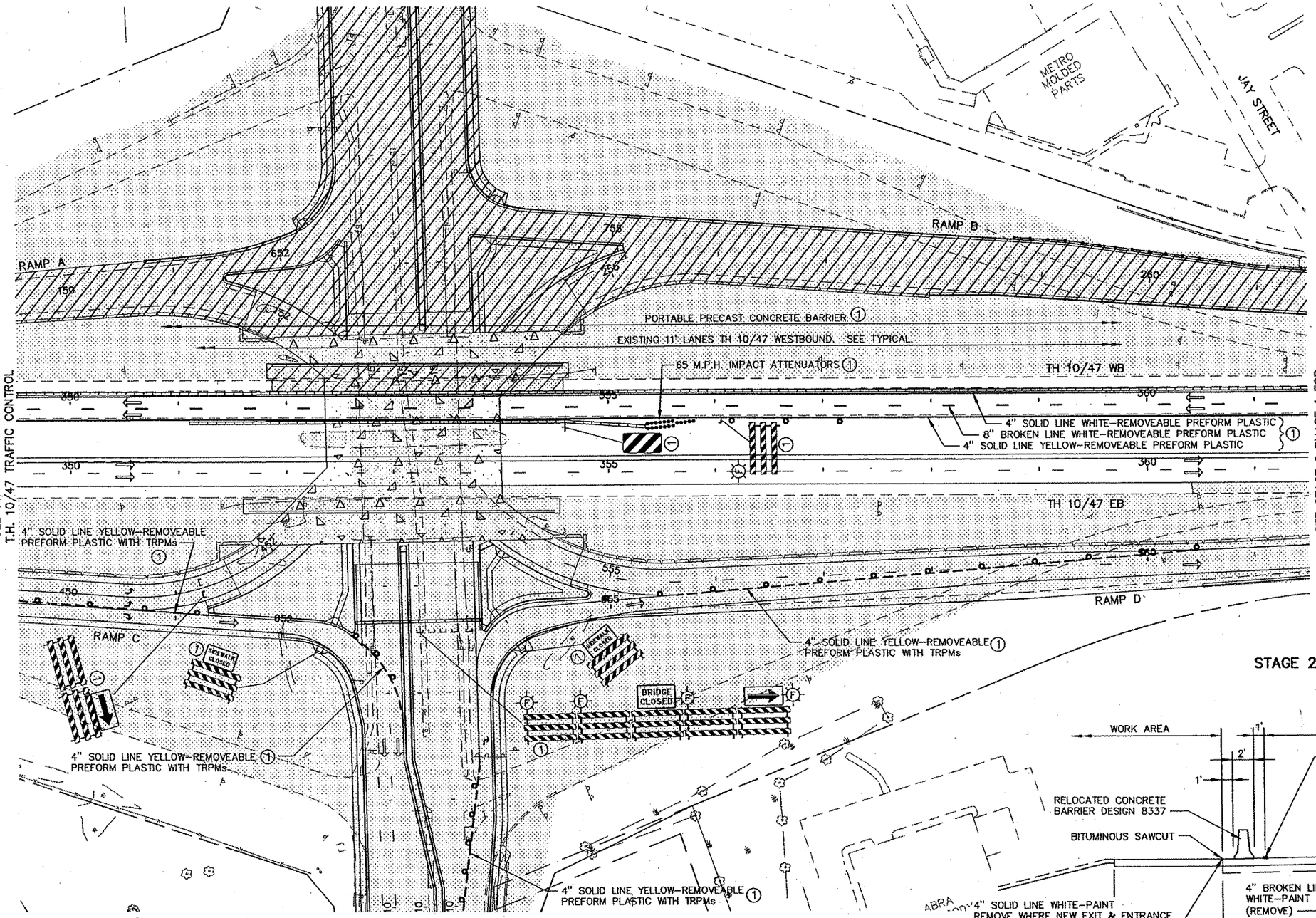
STAGE 2 PHASE 1
ROBINSON DRIVE

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 369 / 681

PLOT DATE: Jan 07 12:27pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\ 01.dwg

Xref'd Drawings
rl-keel-sig
-S2P2SGN
-S2P2
P2pvtmar
iTG2P2_MASK
iTG2P1-PCO
iTG2P2
2TCNOTES
ISN-ETD
ISN-A
F-DW
ISN-E
x34bdr



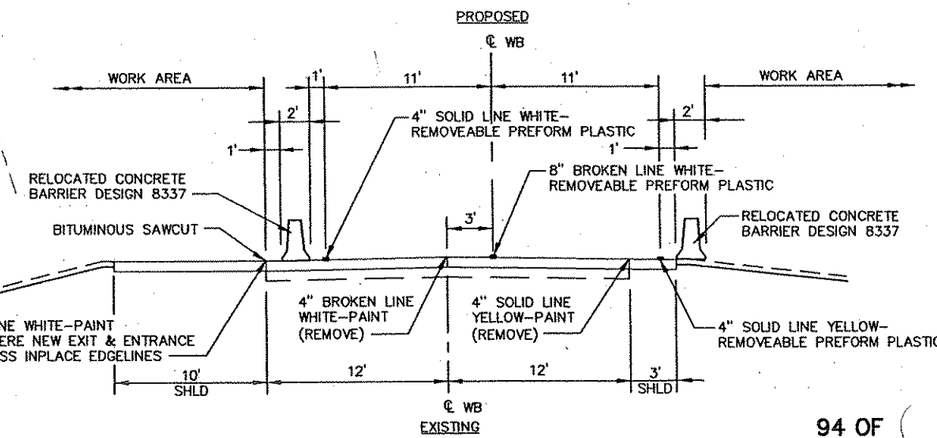
LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

- REMOVALS
- TEMPORARY PAVEMENT
- WORK AREA
- TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 2 (TH 10/47 WB)



94 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC103
DATE: JANUARY 8, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 TH
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

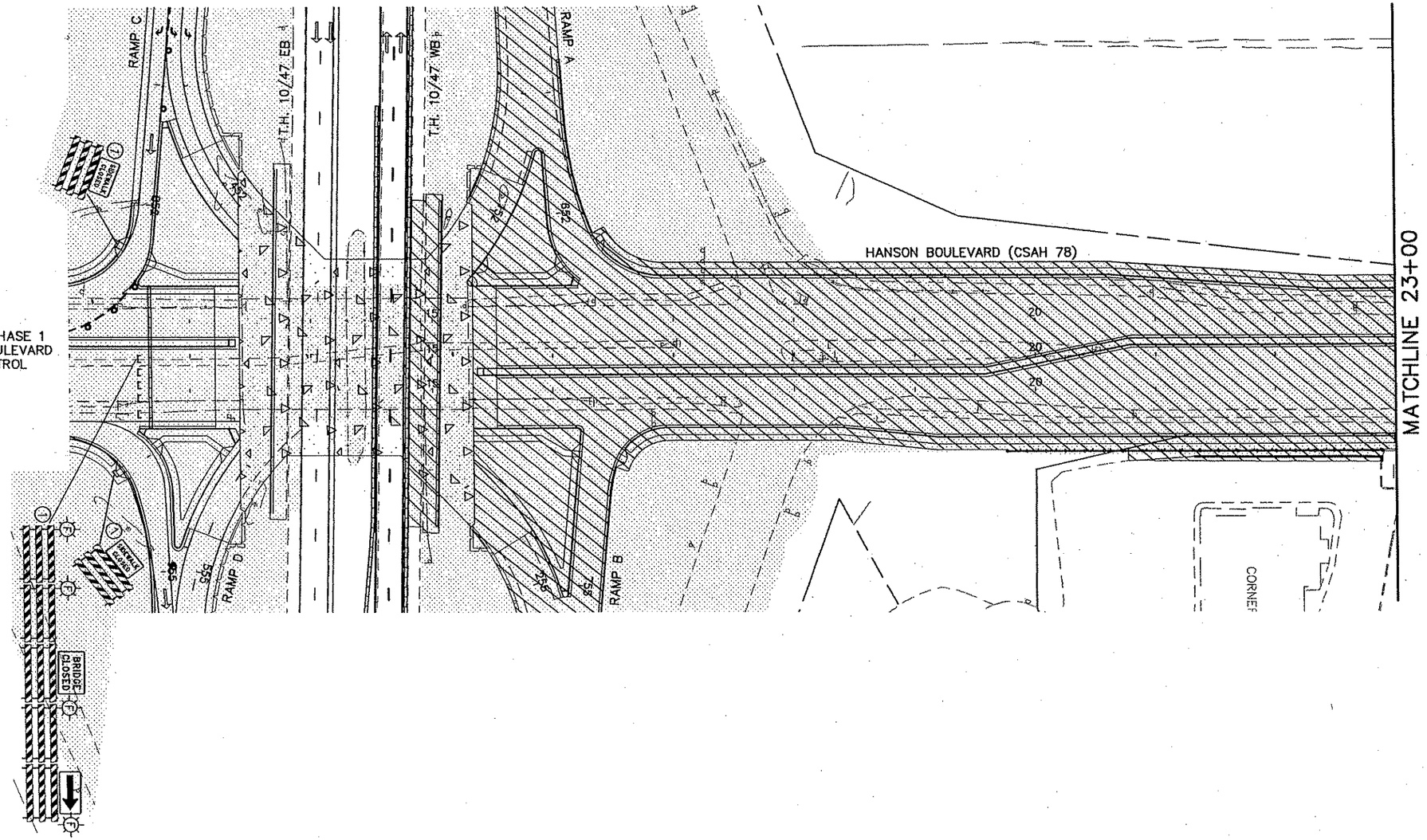
STAGE 2 PHASE 2
T.H. 10/47

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 370 / 681

PLOT DATE: Jan 7 12:27pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\05-3.dwg

Xref'd Drawings
rl-keel-slg
-S2P2SGN
-S2P2
P2pvtmar
TG2P1-PCO
TG2P2_MASK
TG2P2
ISN-ES
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC104
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1379 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

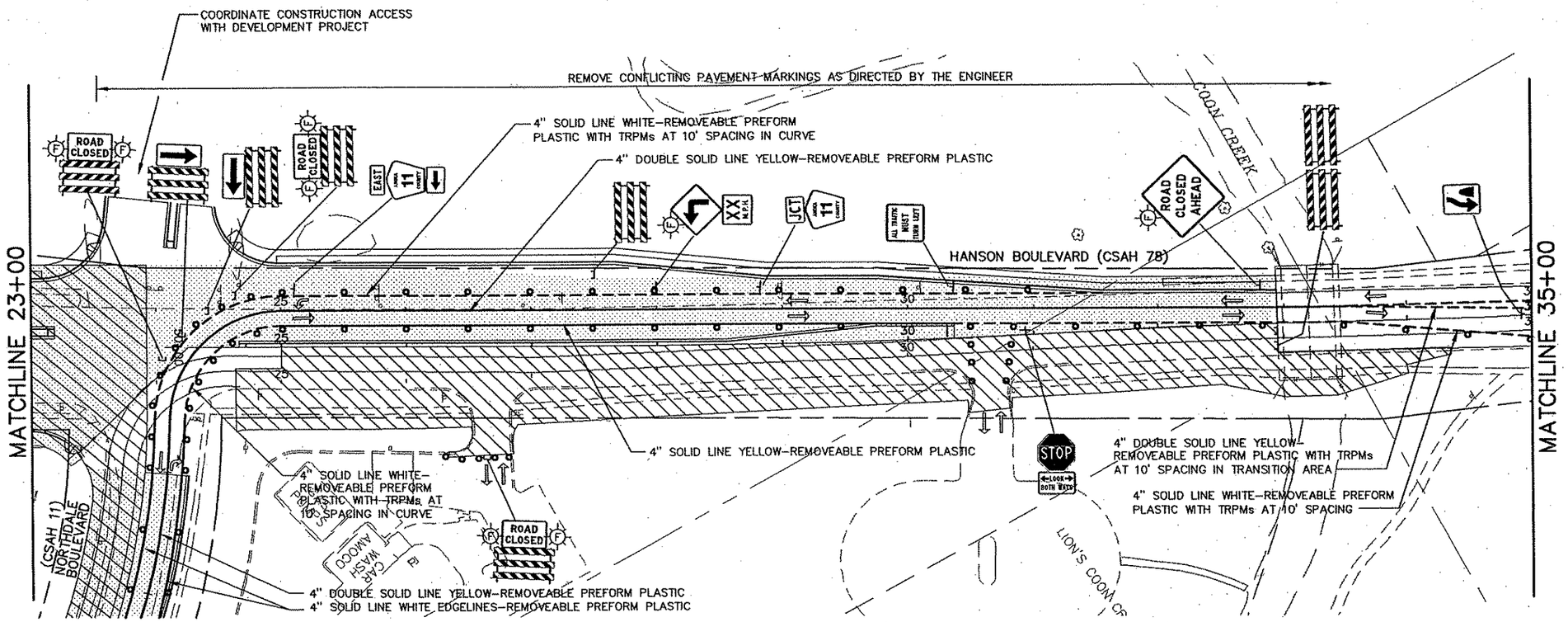
STAGE 2 PHASE 2
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 371 / 681

PLOT DATE: Jan 07 12:27pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0

Xref'd Drawings
rl-keel-stg
:TG2P1-PCO
:TG2P2_MASK
:TG2P2
:-S2P2SGN
:-S2P2
:P2pvtmer
:2TCNOTES
ISN-ETO
ISN-AL
F-DW
ISN-B
x34bdr



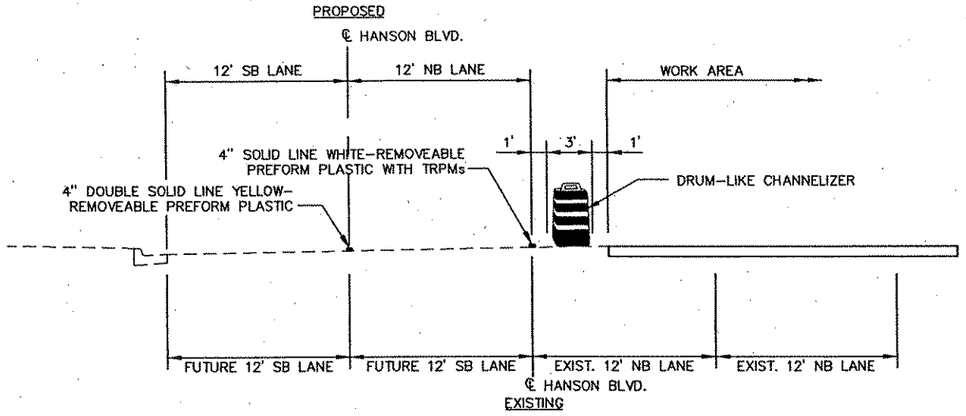
LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 2 (HANSON BOULEVARD CSAH 78)



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC105
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 2 PHASE 2
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 372 / 681

PLOT DATE: Jan 007 12:27pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\

Xref'd Drawings
r)-keel-sig
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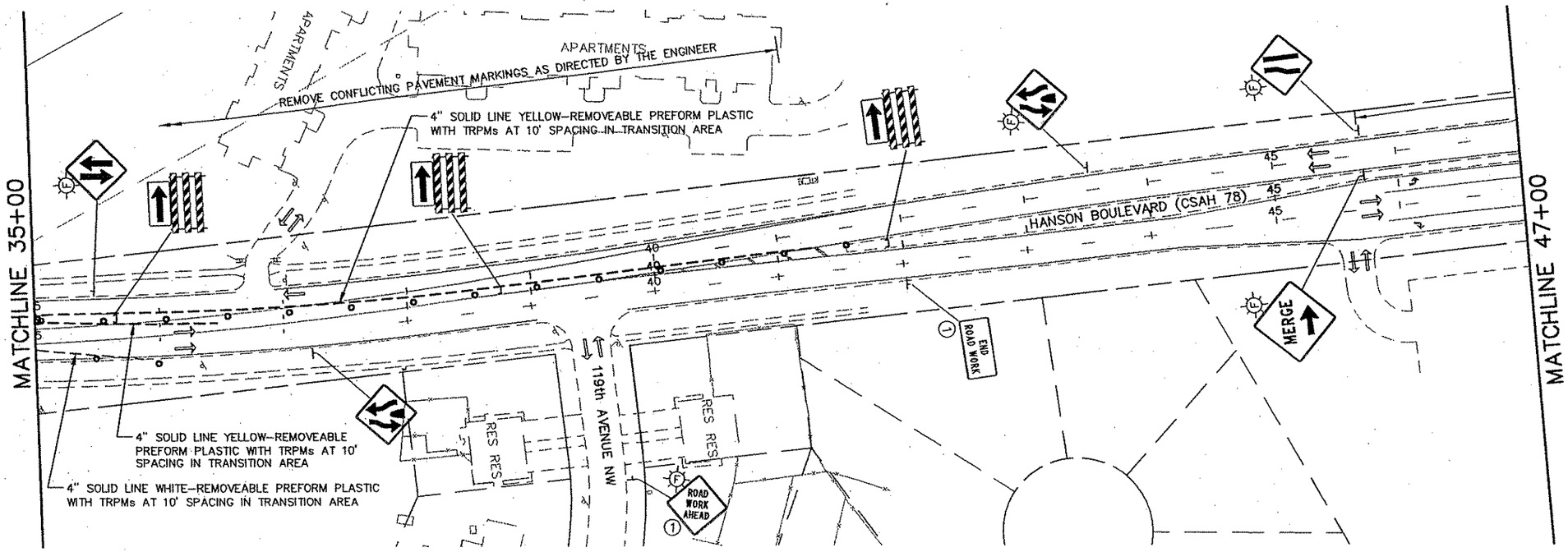
P2PVTMAR
TG2P1-PCO
-S2P2SGN
-S2P2
TG7P2_MASK
ES
ISN-ES
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC106
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

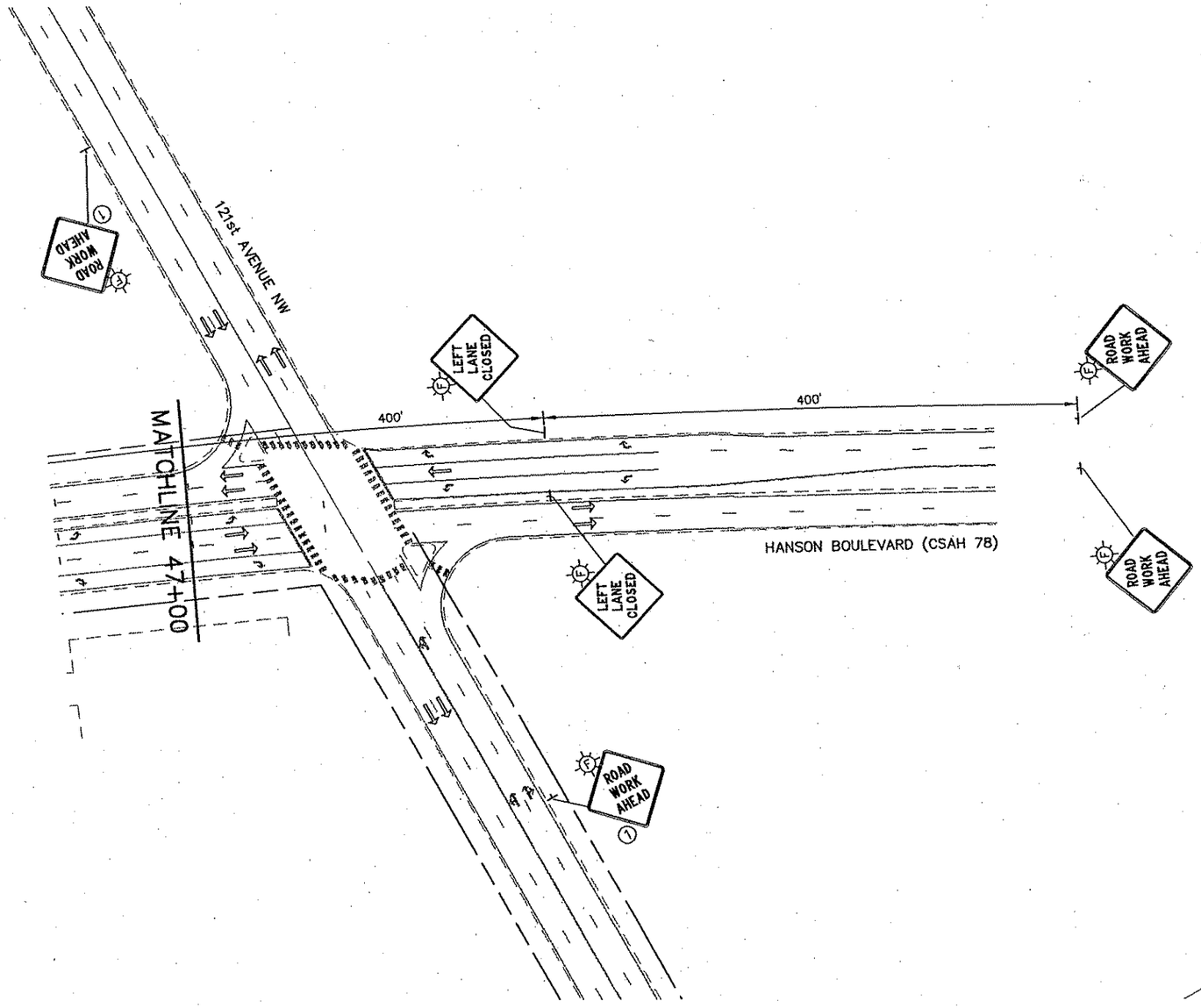
STAGE 2 PHASE 2
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 373 / 681

PLOT DATE: Jan 07 12:27pm DISK FILE NAME: (16.1) R:\33689\33889042\PLAN-SHT\TRAF-CONT-STAGE\06-3.dwg

Xref'd Drawings
1-keel-sig
TG2P2
P2PVTMAR
TG2P1-PCO
-S2P2SGN
-S2P2
TG2P2_MASK
2TCNOTES
ISN-ETO
ISN-AU
F-DWG
ISN-ES
x34bdr



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

NORTH

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC107
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

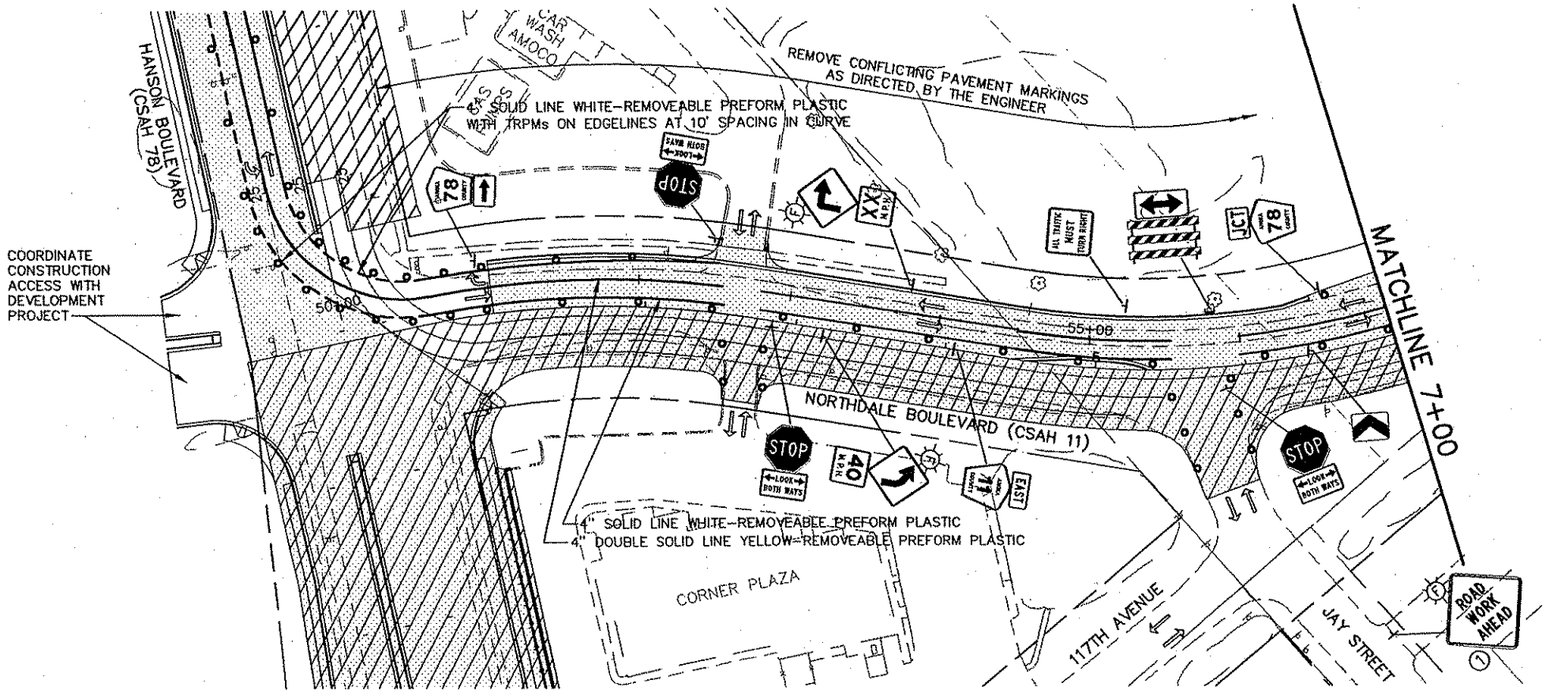
STAGE 2 PHASE 2
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 374 / 681

PLOT DATE: Jan 17 12:27pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0[illegible].dwg

Xref'd Drawings
1-keel-sig
TG2P2
P2PVTMAR
TG2P1-PCO
-S2P2SGN
-S2P2
TG2P2_MASK
2Y S
IS
IS
F--
ISN-ES
x34bdr



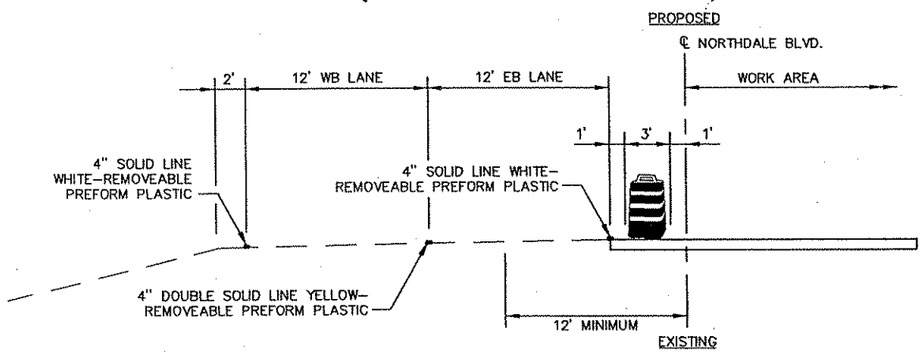
LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

- REMOVALS
- TEMPORARY PAVEMENT
- WORK AREA
- TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 2 (NORTHDALE BOULEVARD CSAH 11)



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC108
DATE: JANUARY 8; 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

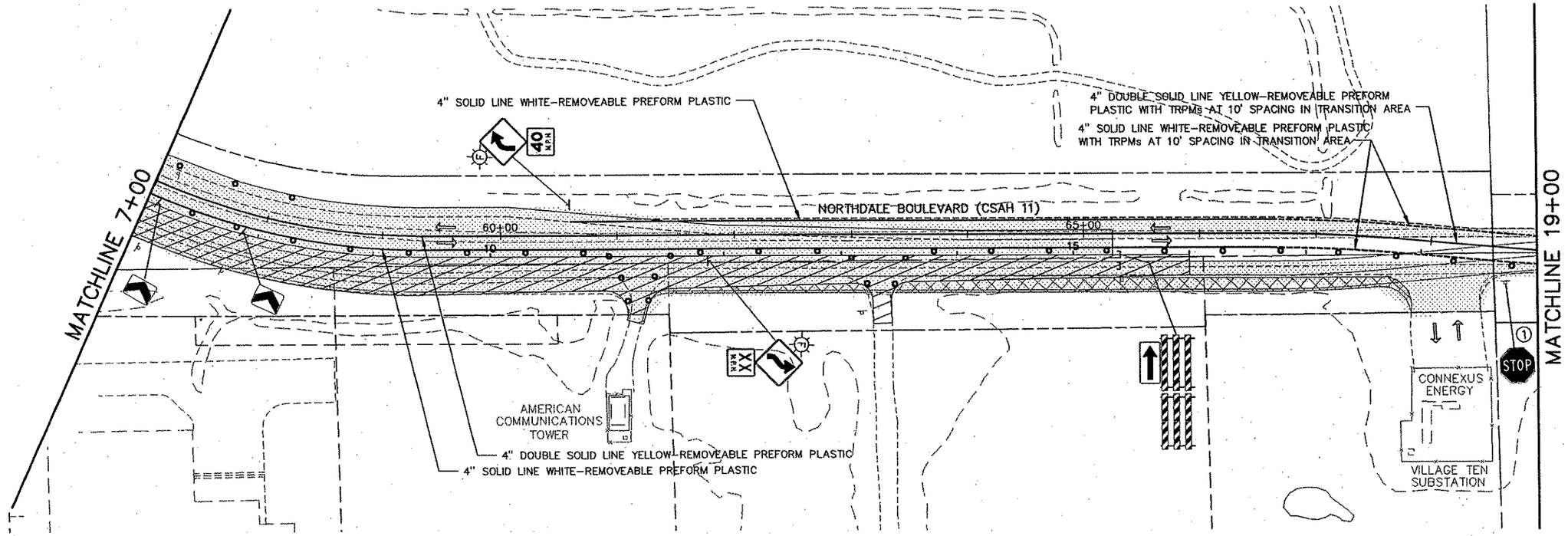
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 2 PHASE 2
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 375 / 681

PLOT DATE: Jan 07 12:28pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\ 08.dwg

Xref'd Drawings
-keel-sig
TG2P2
P2PVTMAR
TG2P1-PCO
-S2P2SGN
-S2P2
TG2P2_MASK
2TCNOTES
ISN-ETO
ISN-AU
F-DW
ISN-ES
x34bdr



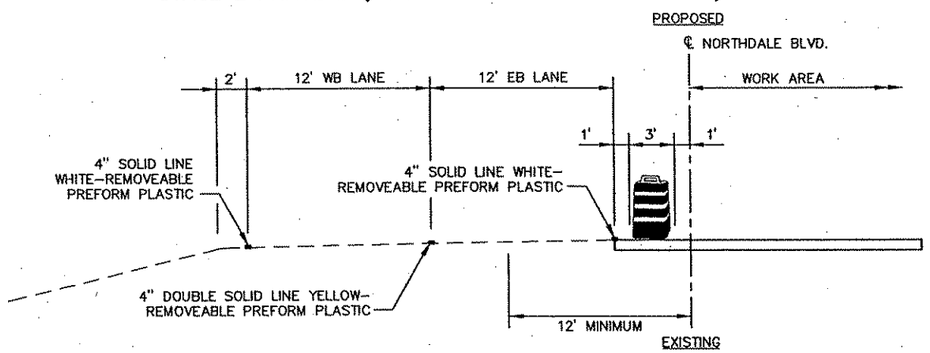
LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

- REMOVALS
- TEMPORARY PAVEMENT
- WORK AREA
- TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 2 (NORTHDALE BOULEVARD CSAH 11)



PLOT DATE: Jan 07 12:28pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

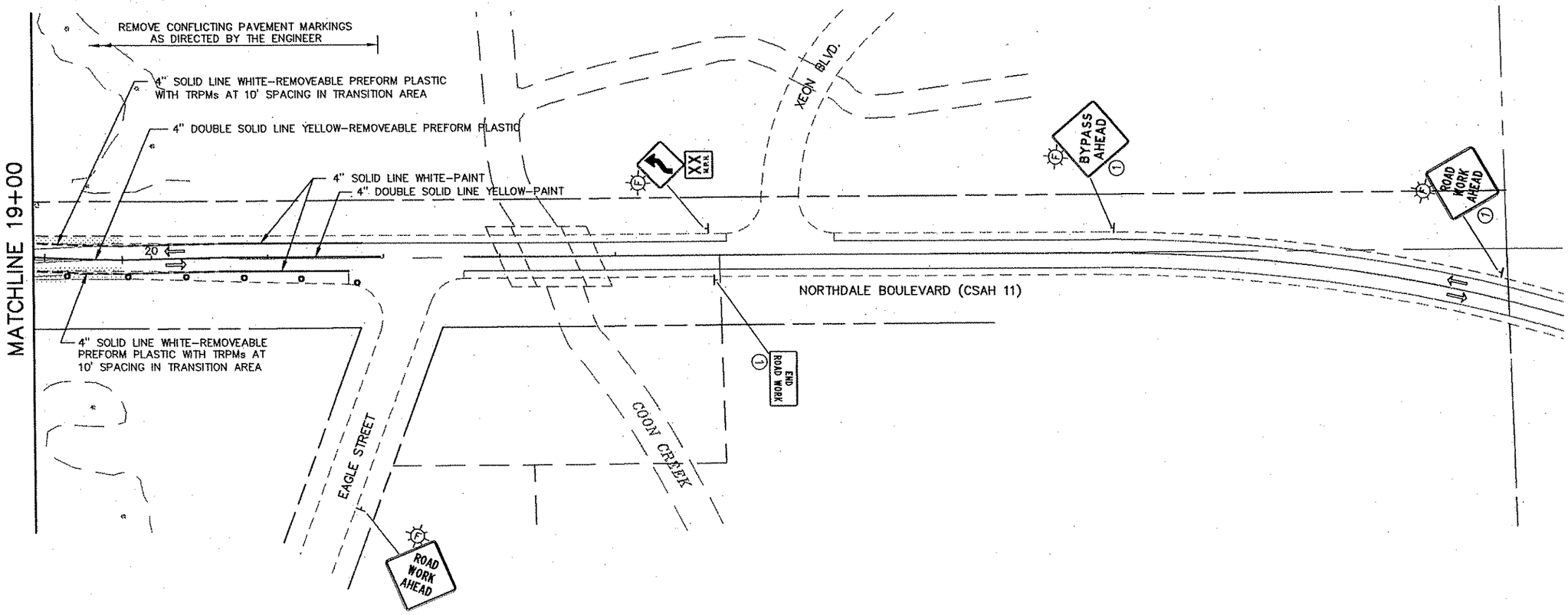
DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JRM
CHKED. BY: LOM | DWG. NAME: 042TC109
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 2 PHASE 2
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: JRM
CHKED. BY: LOM
DWG. NAME: 042TC110
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

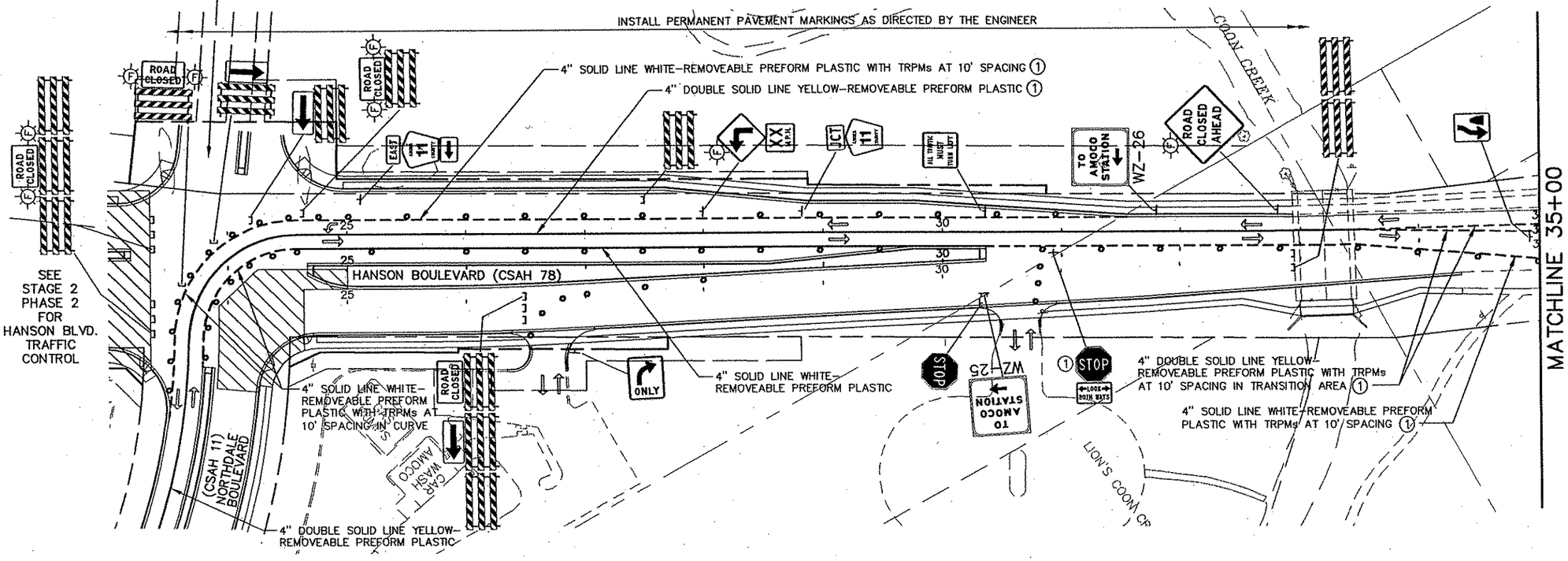
STAGE 2 PHASE 2
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 377 / 681

PLOT DATE: Jan 07 12:28pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\G 0.dwg

Kraft Drawings
rl-keel-sig
D-ESM
-S2P2ASGN
-S2P2A
P2Apvtmar
SN-PCO
TG2P2A
2TCNOTES
SN-ETD
SN-A
F-DW
SN-E
x34bdr



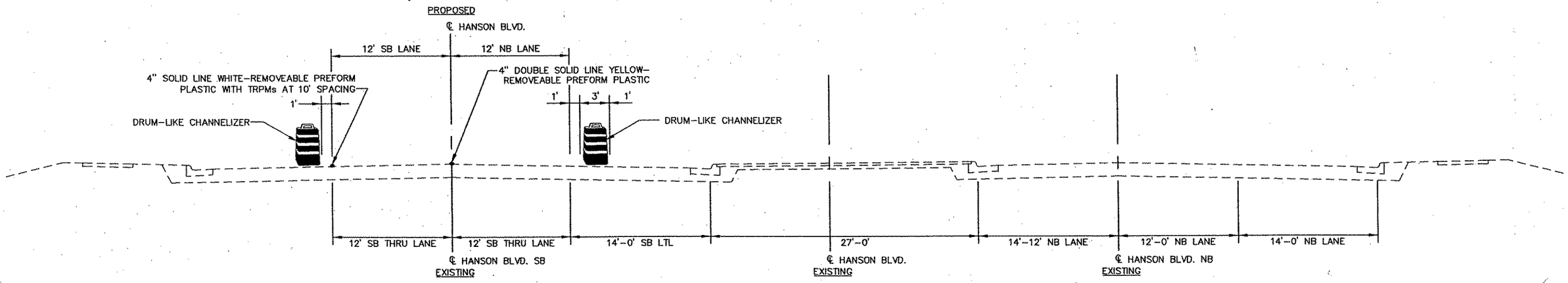
LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 2A (HANSON BOULEVARD CSAH 78)



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: LM
CHKED. BY: LOM | DWG. NAME: 042TC111
DATE: JANUARY 8, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

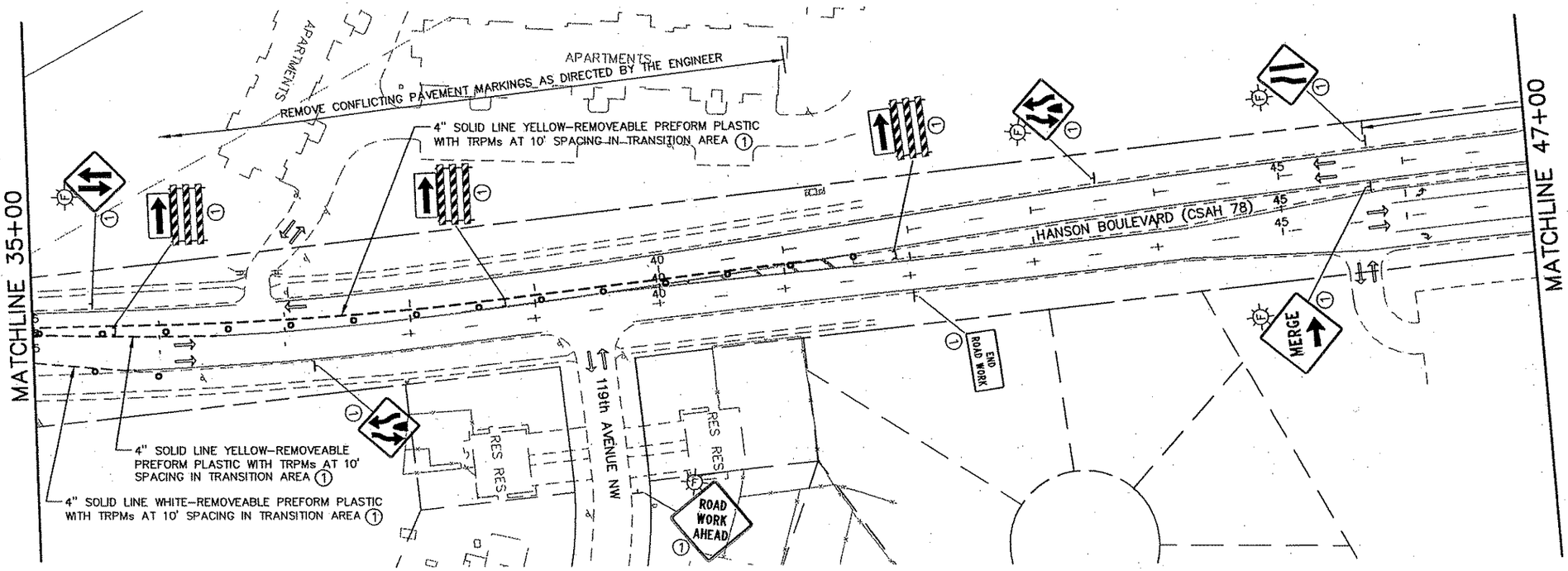
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 2 PHASE 2A
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 378 / 681

PLOT DATE: Jan 07 12:28pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 .dwg



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

103 OF 113

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: LM
CHKED. BY: LOM
DWG. NAME: 042TC112
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

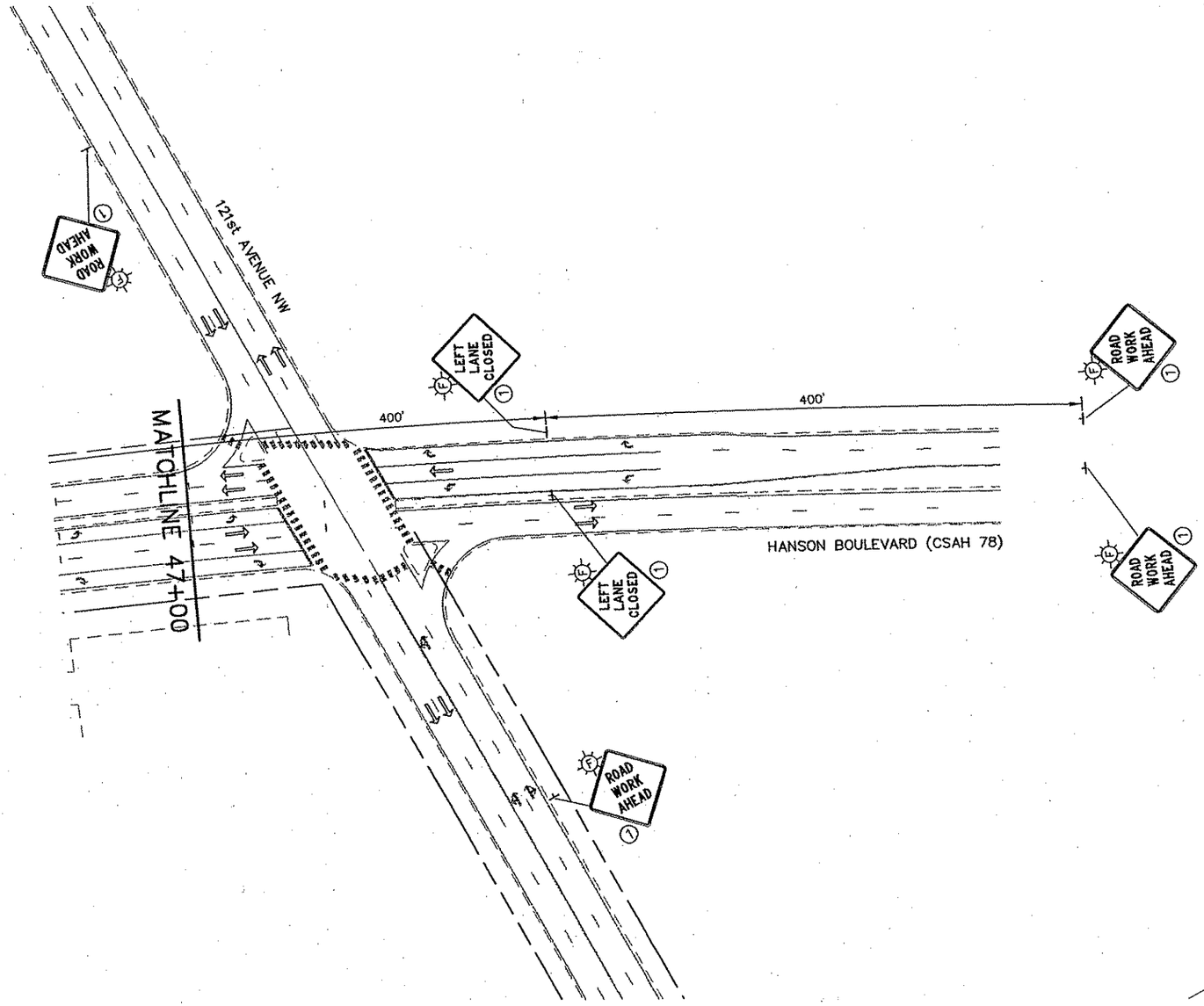
STAGE 2 PHASE 2A
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 379 / 681

PLOT DATE: Jan 07 12:28pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 2.dwg

Xref'd Drawings
1-keel-sig
-S2P2ASGN
-S2P2A
P2Apvtmar
2TCNOTES
ISN-ETO
ISN-ALI
F-DWG-BDR
ISN-ESI
x34bd



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

104 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: LM
CHKED. BY: LOM | DWG. NAME: 042TC113
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

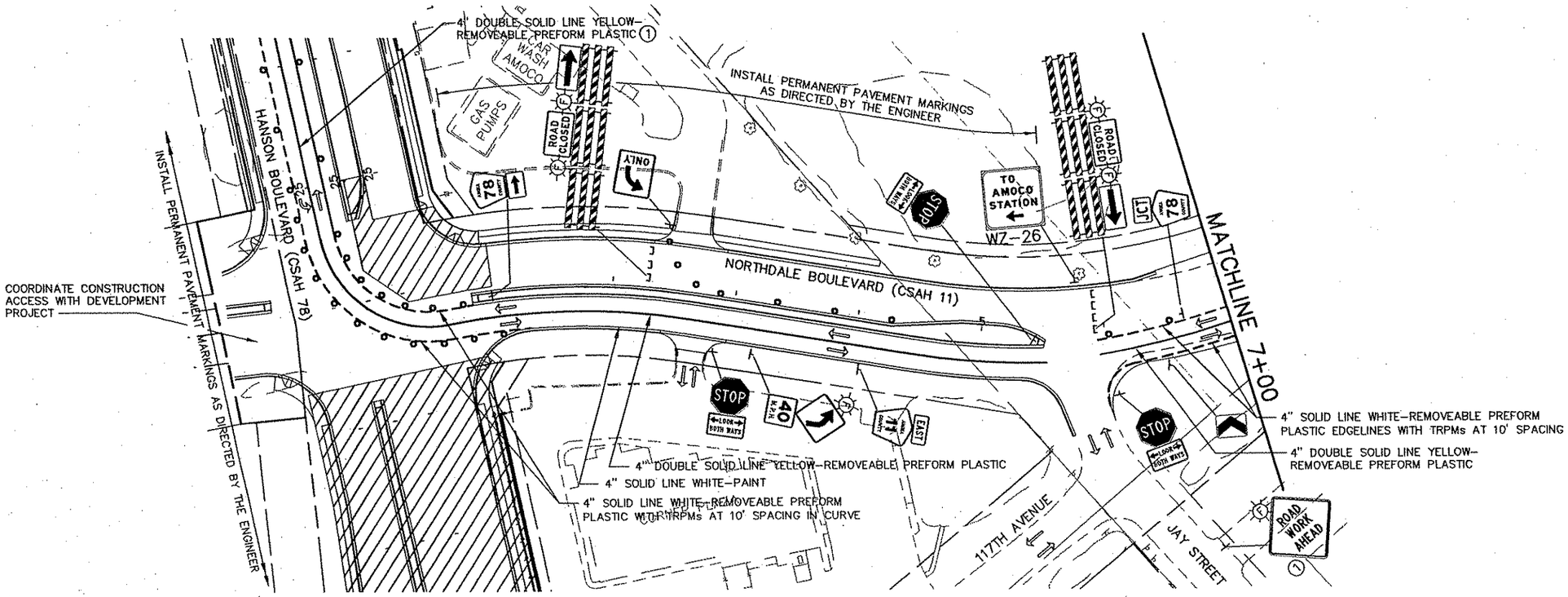
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
STAGE 2 PHASE 2A
HANSON BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 380 / 681

PLOT DATE: Jan 17 12:28pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0[illegible].dwg



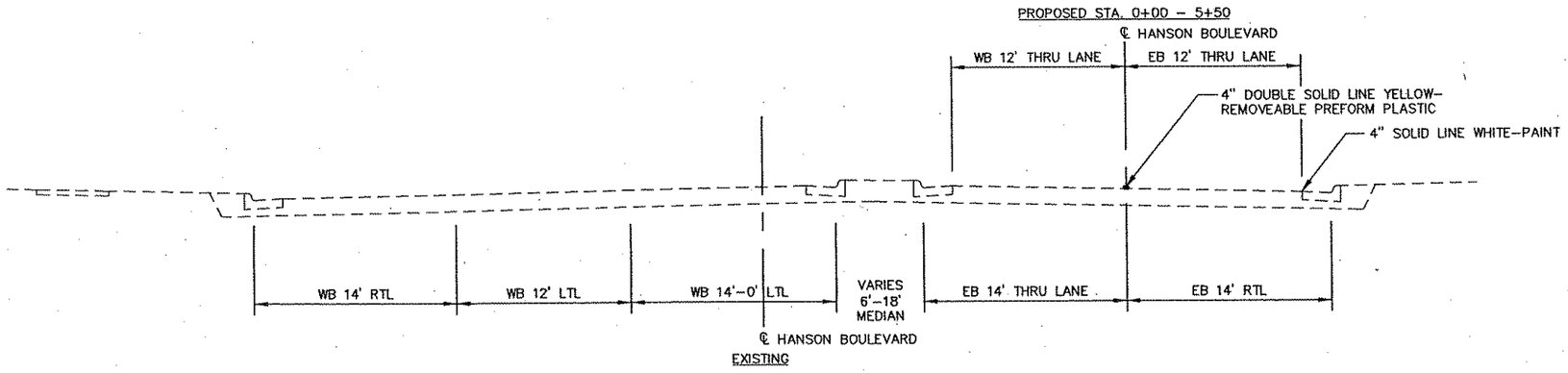
LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 2A (NORTHDALE BOULEVARD CSAH 11)



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: LM
CHKED. BY: LOM
DWG. NAME: 042TC114
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

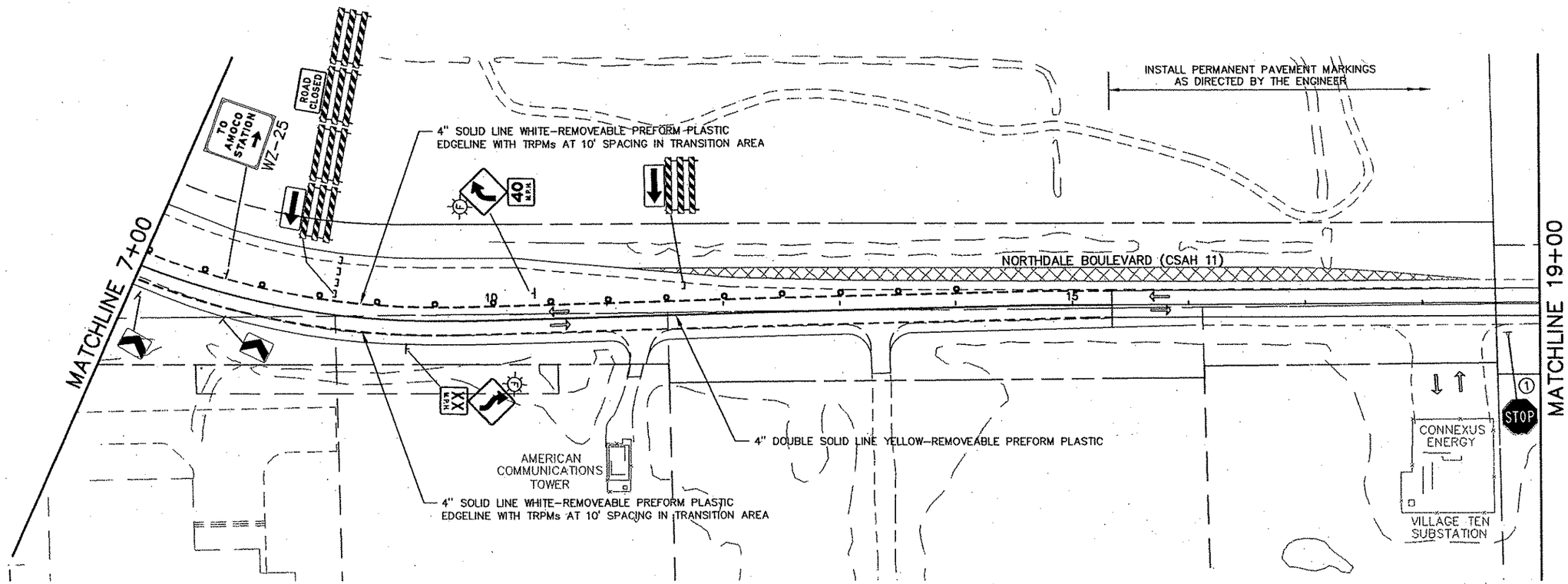
STAGE 2 PHASE 2A
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 381 / 681

PLOT DATE: Jan 2007 12:28pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\ 4.dwg

Xref'd Drawings
1-keel-sig
TG2P2A
-S2P2ASGN
-S2P2A
P2Apvtmar
ISN-PCO
2TCNOTES
ISN-ETO
ISN-ALI
F-DWG
ISN-E
x34bdi



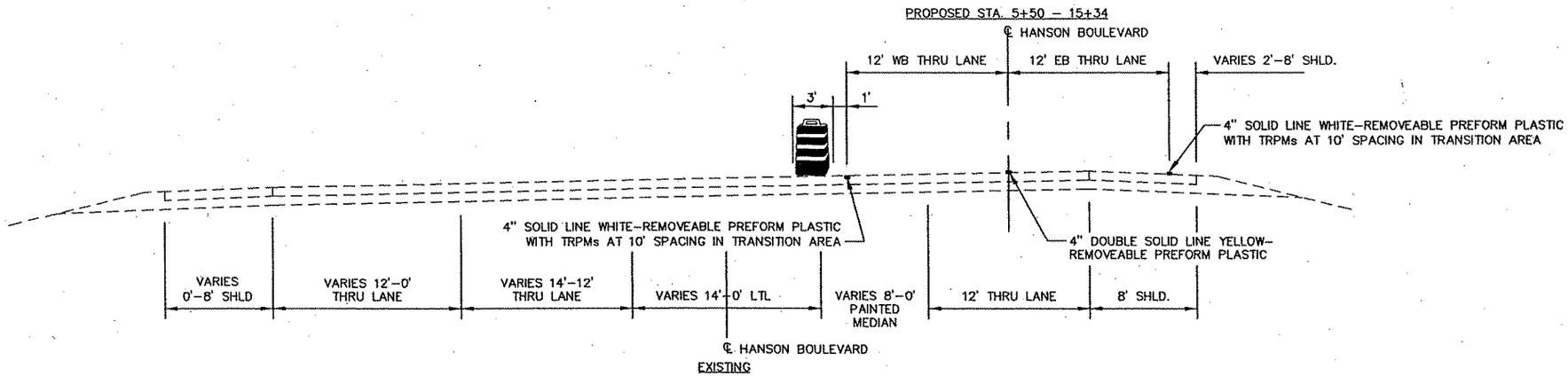
LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

STAGE 2 PHASE 2A (NORTHDALE BOULEVARD CSAH 11)



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: LM
CHKED. BY: LOM | DWG. NAME: 042TC115
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

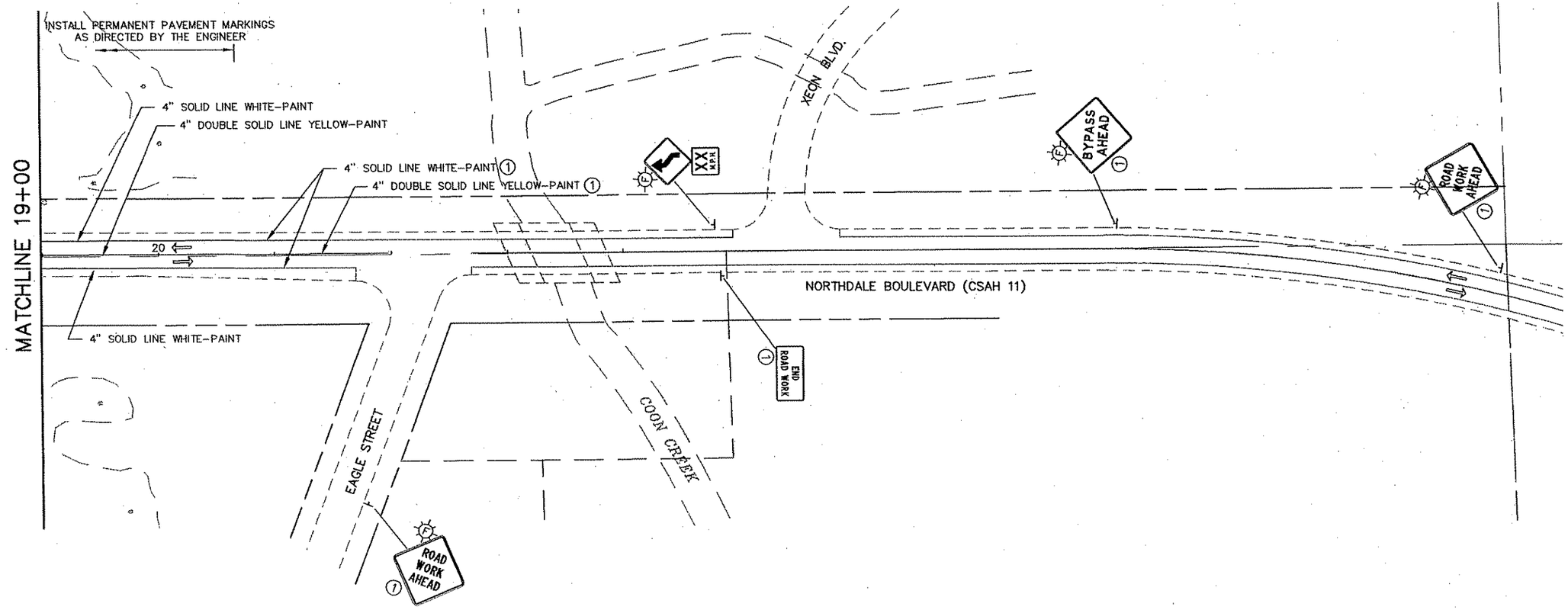
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

STAGE 2 PHASE 2A
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 382 / 681

PLOT DATE: Jan 17 12:29pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0



LEGEND

1. INPLACE, USE INPLACE
2. INPLACE, MODIFY MESSAGE
3. REMOVE OR COVER
4. SALVAGE
5. FURNISH AND INSTALL (F & I)
6. INSTALL
7. DETOUR SIGNING
8. MASK CONFLICTING PAVEMENT MARKINGS
9. CALL DAVE DESUTTER OF MINNESOTA LOGOS AT 1-800-769-3197 WHEN LOGO SIGNS NEED TO BE MODIFIED OR REMOVED
10. SEE PERMANENT SIGN PLAN AND SPECIAL PROVISIONS FOR SALVAGE INSTRUCTIONS

REMOVALS
TEMPORARY PAVEMENT
WORK AREA
TRAFFIC FLOW DIRECTION

0 25 50 100
SCALE IN FEET

107 OF 113

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: LM
CHKED. BY: LOM
DWG. NAME: 042TC116
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL

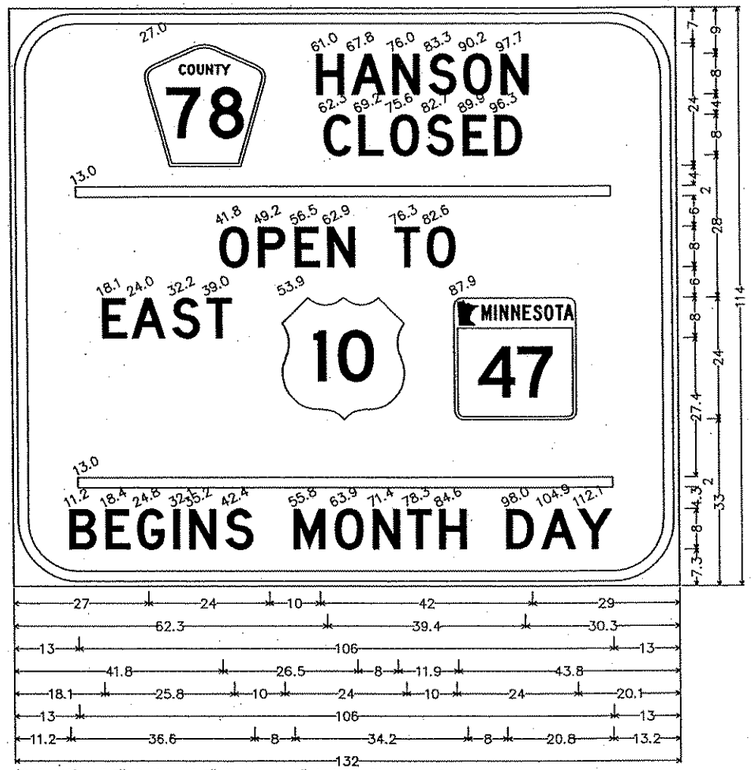
STAGE 2 PHASE 2A
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 383 / 681

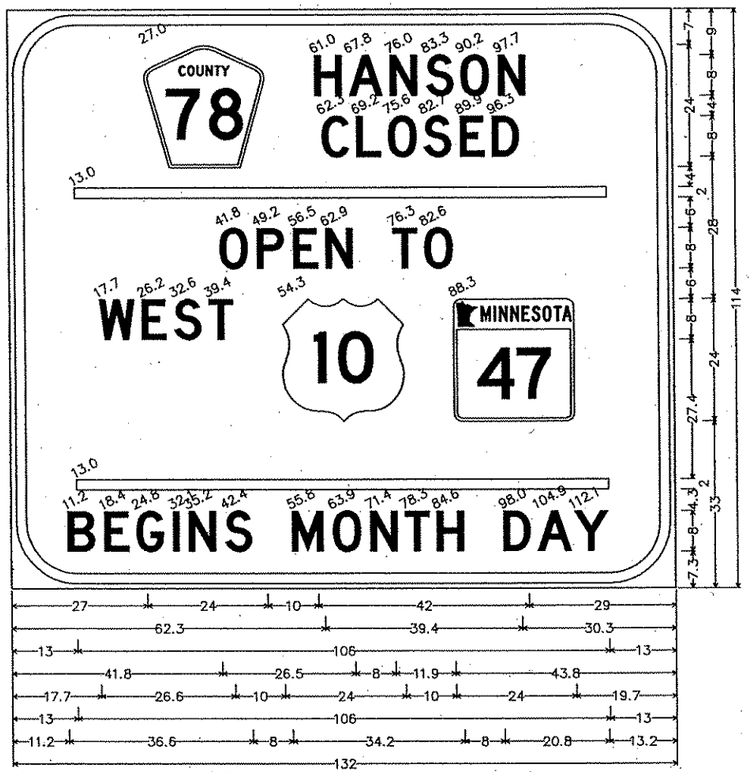
PLOT DATE: Jan 7 12:29pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0...dwg

Xref'd Drawings
rl-keel-sig
F-DWG-BDR
x34bdr



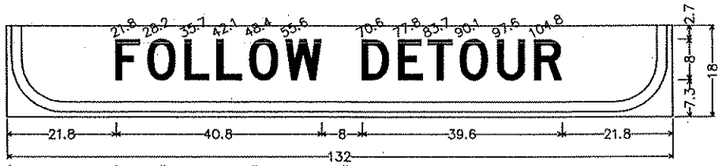
(G20-X2); 13.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[HANSON] D; [CLOSED] D; [OPEN TO] D; [EAST] D; [BEGINS MONTH DAY] D;

WZ-1 4 REQUIRED



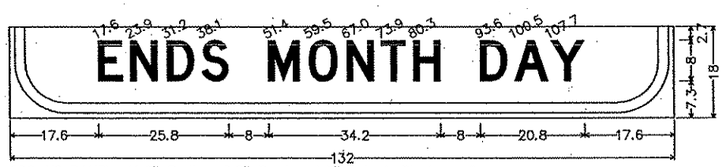
(G20-X2); 13.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[HANSON] D; [CLOSED] D; [OPEN TO] D; [WEST] D; [BEGINS MONTH DAY] D;

WZ-3 4 REQUIRED



(G20-X2 PANEL); 11.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[FOLLOW DETOUR] D;

WZ-2 3 REQUIRED



G20-X2 PANEL; 11.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[ENDS MONTH DAY] D;

WZ-4 5 REQUIRED

SPECIAL SIGN NOTES:

1. ALL DIMENSIONS AND SIZES ARE SUBJECT TO FINAL VERIFICATION BEFORE FABRICATION BEGINS.
2. SIGN PANELS SHALL BE BLACK BORDER AND LETTERING REFLECTIVE ORANGE BACKGROUND.
3. UNLESS OTHERWISE NOTED, SIGN BORDER TO BE 1" AND RADIUS TO BE 3".
4. MEASUREMENT WILL BE MADE BY THE SQUARE FOOT OF SIGN PANELS FURNISHED AND INSTALLED, PAYMENT WILL BE MADE UNDER ITEM 2563 CONSTRUCTION SIGNS – SPECIAL.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: LM
CHKED. BY: LOM | DWG. NAME: TCSGN01
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

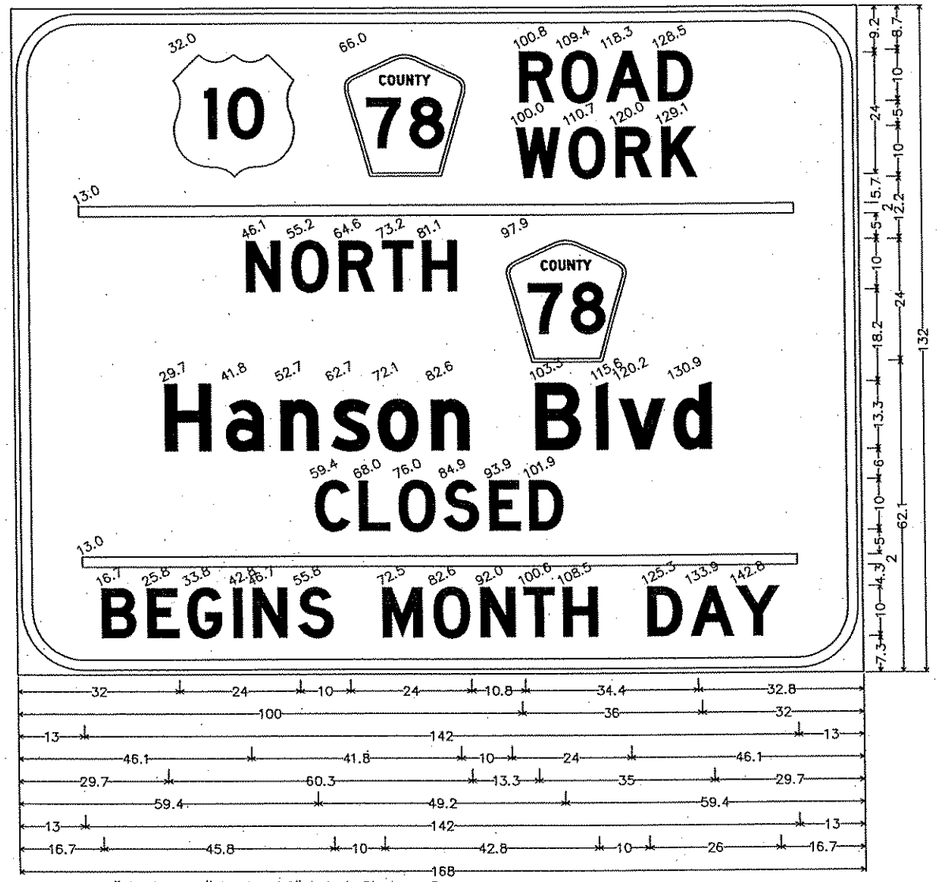
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
CONSTRUCTION SIGNS
SPECIAL SIGN DETAILS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 384 / 681

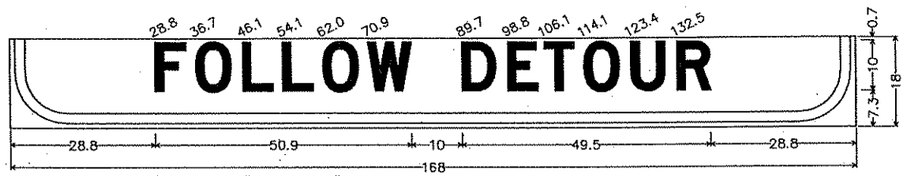
PLOT DATE: Jan 7 12:53pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0...N01.dwg

Xref'd Drawings
rl-keel-slg
F-DWG-BDR
x34bdr



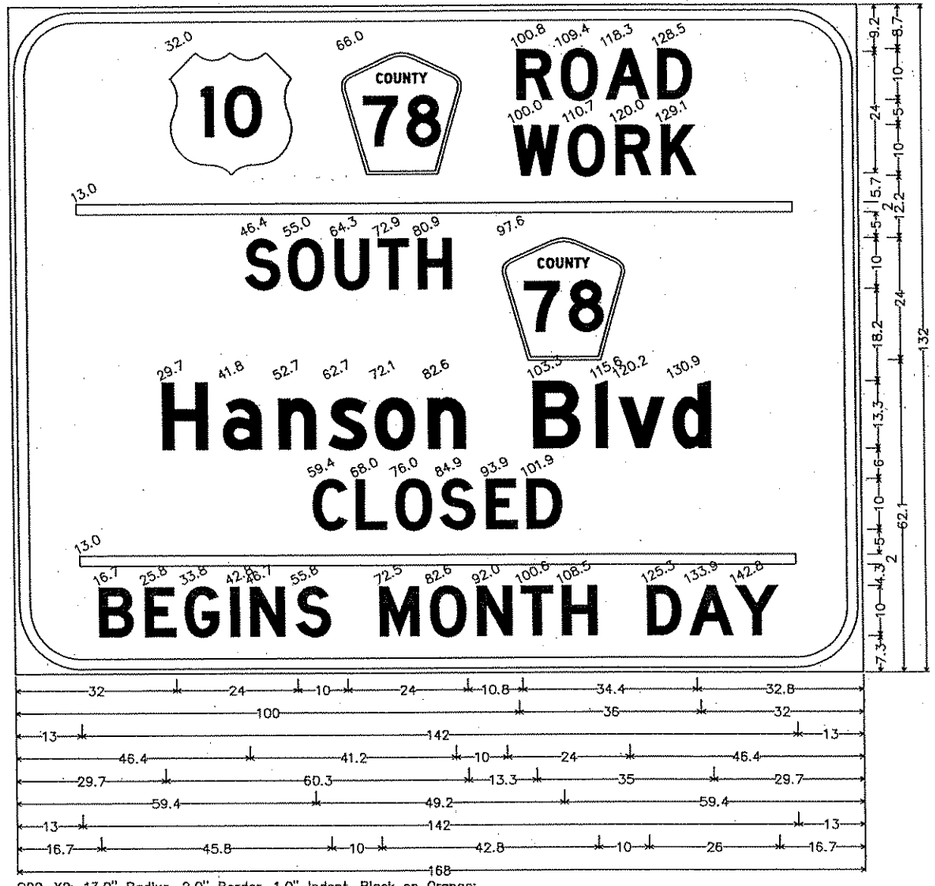
G20-X2; 13.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[ROAD] D; [WORK] D; [NORTH] D; [Hanson Blvd] D; [CLOSED] D; [BEGINS MONTH DAY] D;

WZ-5 1 REQUIRED



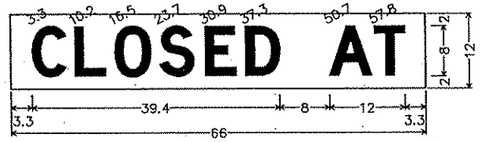
G20-X2 PANEL; 11.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[FOLLOW DETOUR] D;

WZ-6 2 REQUIRED



G20-X2; 13.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[ROAD] D; [WORK] D; [SOUTH] D; [Hanson Blvd] D; [CLOSED] D; [BEGINS MONTH DAY] D;

WZ-7 1 REQUIRED



No border, None on Orange;
[CLOSED AT] Black D;

WZ-8 7 REQUIRED

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: LM
CHKED. BY: LOM | DWG. NAME: TCSGN02
DATE: JANUARY 8, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
CONSTRUCTION SIGNS
SPECIAL SIGN DETAILS

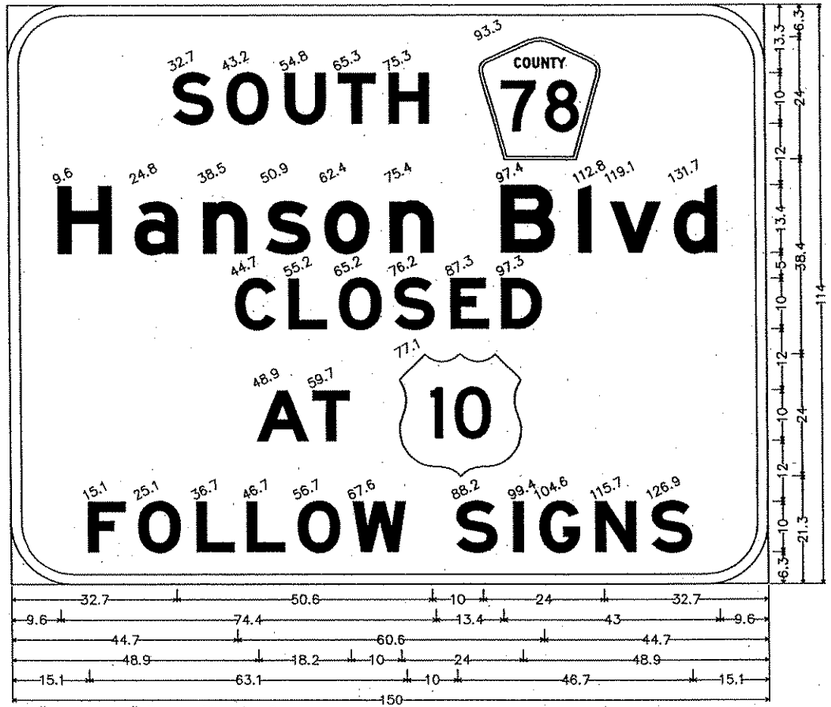
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 385 / 681

PLOT DATE: Jan 07 12:53pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1\TCSGN02.dwg

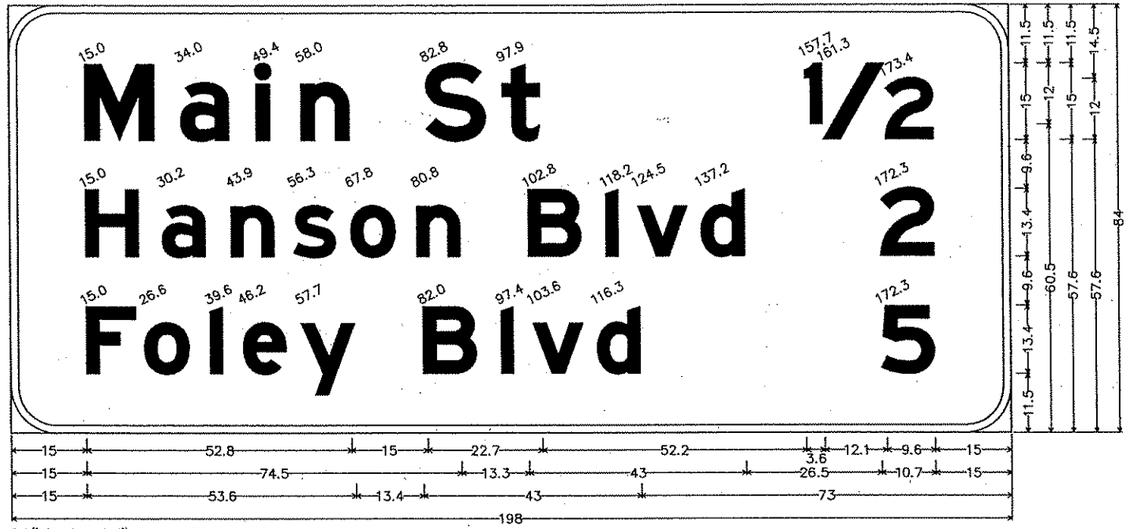
Xref'd Drawings
ri-keel-sig
F-DWG-BDR
x34bdr

FOR REFERENCE ONLY – DO NOT MAKE



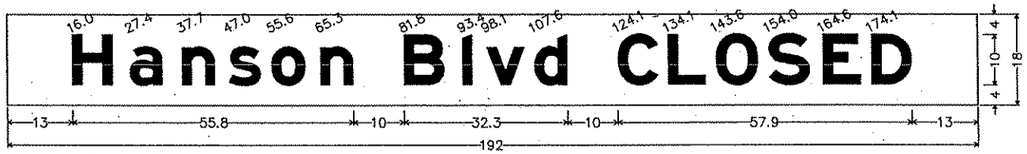
12.0" Radius, 2.0" Border, Black on Orange;
[SOUTH] E Mod 125% spacing; [Hanson Blvd] E Mod; [CLOSED] E Mod 125% spacing; [AT] E Mod 125% spacing;
[FOLLOW SIGNS] E Mod 125% spacing;

WZ–9 1 REQUIRED



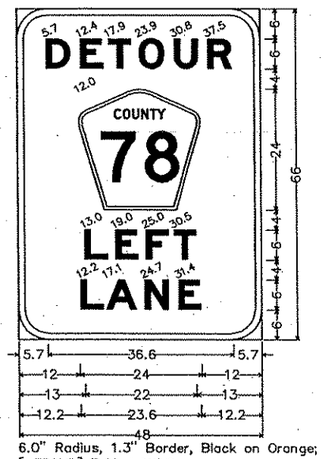
9.0" Radius, 1.5" Border, White on Green;
[Main St] E Mod; [1] E Mod; [/] E Mod; [2] E Mod; [Hanson Blvd] E Mod; [2] E Mod; [Foley Blvd] E Mod; [5] E Mod;

WZ–10 NONE REQUIRED



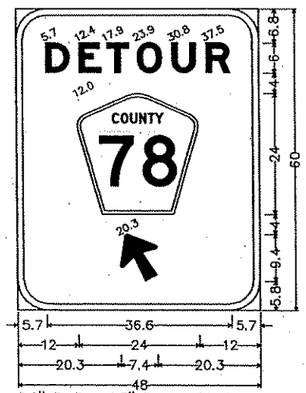
No border, Black on Orange;
[Hanson Blvd CLOSED] E Mod;

WZ–11 1 REQUIRED



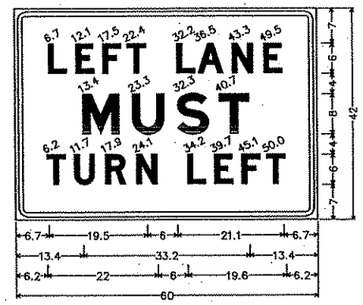
6.0" Radius, 1.3" Border, Black on Orange;
[DETOUR] E Mod 125% spacing;
[LEFT] E Mod 125% spacing;
[LANE] E Mod 125% spacing;

WZ–12 2 REQUIRED



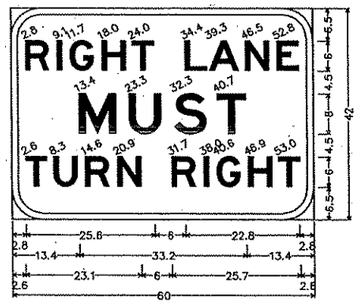
6.0" Radius, 1.3" Border, Black on Orange;
[DETOUR] E Mod 125% spacing;
Arrow 3 – 10.0" 120°;

WZ–13 1 REQUIRED



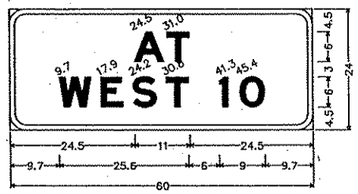
CS–03;
2.3" Radius, 0.9" Border, 0.6" Indent, Black on White;
[LEFT LANE] White D Mod 125] spacing;
[MUST] White E Mod 125] spacing;
[TURN LEFT] White D Mod 125] spacing;

WZ–14 3 REQUIRED



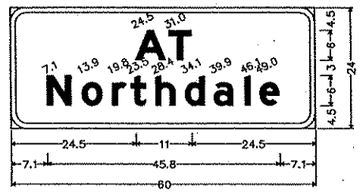
6.0" Radius, 1.3" Border, Black on White;
[RIGHT LANE] E; [MUST] E 125] spacing;
[TURN RIGHT] E;

WZ–15 3 REQUIRED



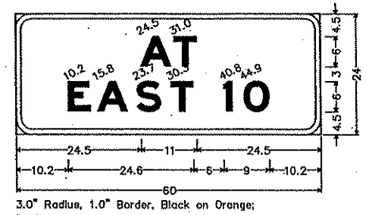
3.0" Radius, 1.0" Border, Black on Orange;
[AT] E Mod 125] spacing;
[WEST 10] E Mod 150] spacing;

WZ–16 1 REQUIRED



3.0" Radius, 1.0" Border, Black on Orange;
[AT] E Mod 125] spacing; [Northdale] E Mod;

WZ–17 3 REQUIRED



3.0" Radius, 1.0" Border, Black on Orange;
[AT] E Mod 125] spacing;
[EAST 10] E Mod 150] spacing;

WZ–18 2 REQUIRED

110 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: LM
CHKED. BY: LOM | DWG. NAME: TCSGN03
DATE: JANUARY 8, 2006

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

TRAFFIC CONTROL

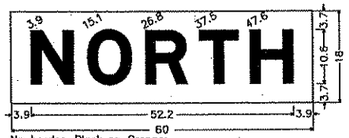
CONSTRUCTION SIGNS
SPECIAL SIGN DETAILS

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 386 / 681

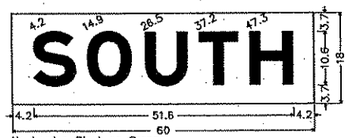
PLOT DATE: Jan 17 12:54pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0303.dwg

Xref'd Drawings
-t-keel-sig
F-DWG-BDR
x34bdr



No border, Black on Orange;
[NORTH] E Mod;

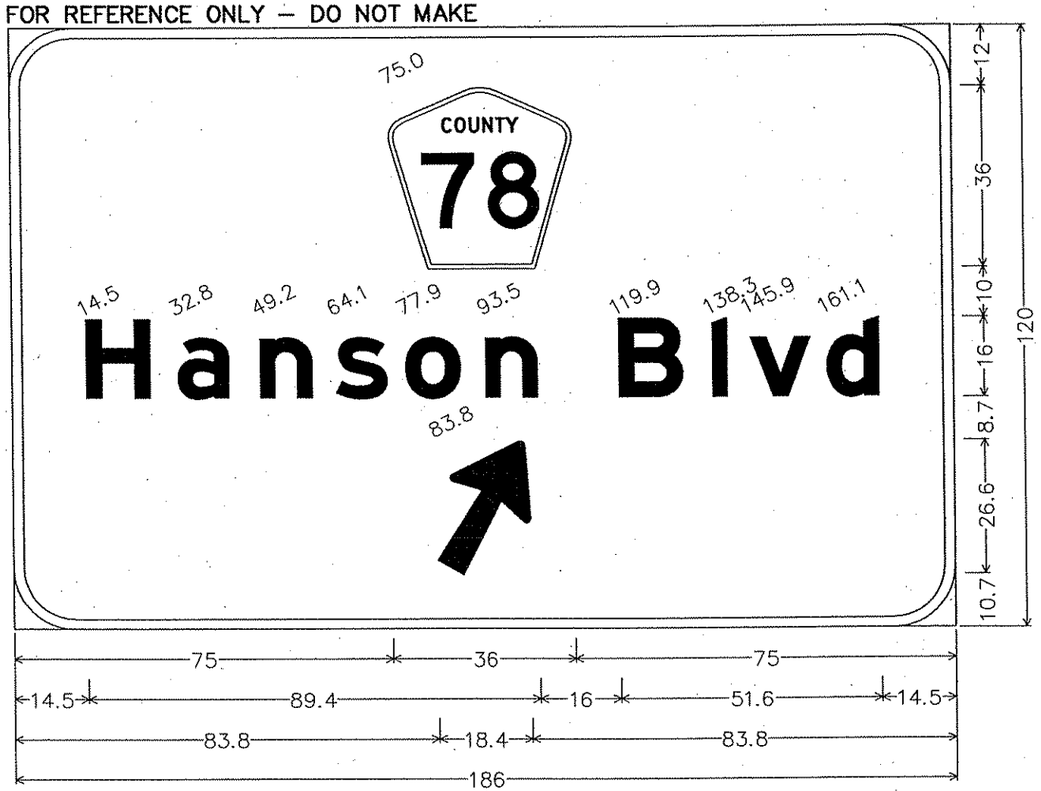
WZ–19 2 REQUIRED



No border, Black on Orange;
[SOUTH] E Mod;

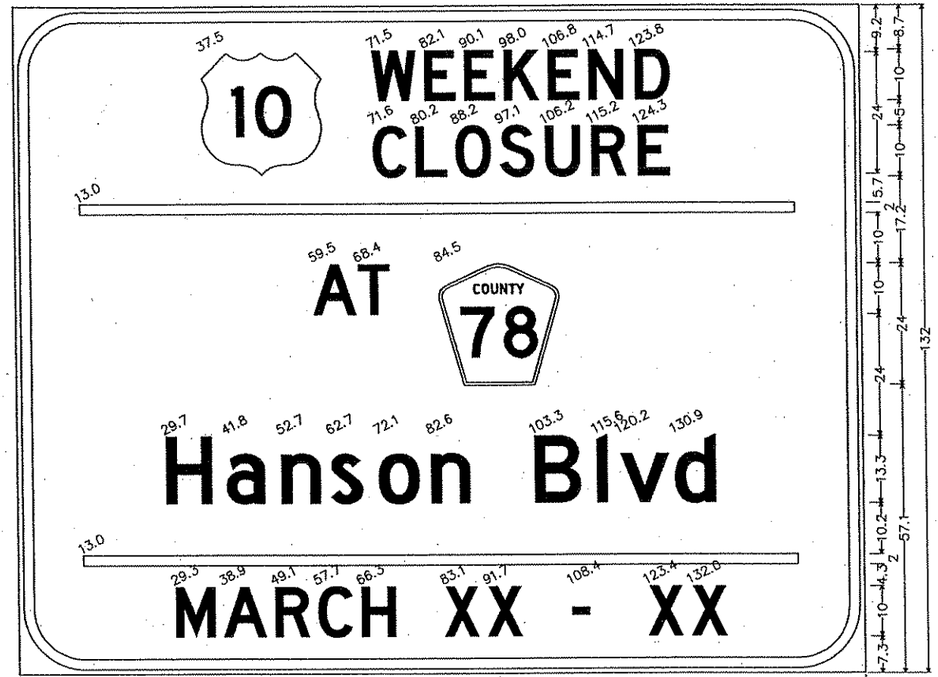
WZ–21 2 REQUIRED

FOR REFERENCE ONLY – DO NOT MAKE



A–1 & A–2; 12.0" Radius, 2.0" Border, White on Green;
[Hanson Blvd] E Mod; Arrow 16 – 29.0" 60° White

WZ–29 NONE REQUIRED



G20–X2; 13.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[WEEKEND] D; [CLOSURE] D; [AT] D; [Hanson Blvd] D; [MARCH XX – XX] D 90% spacing;

WZ–20 2 REQUIRED

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: LM
CHKED. BY: LOM | DWG. NAME: TCSGN04
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
CONSTRUCTION SIGNS
SPECIAL SIGN DETAILS

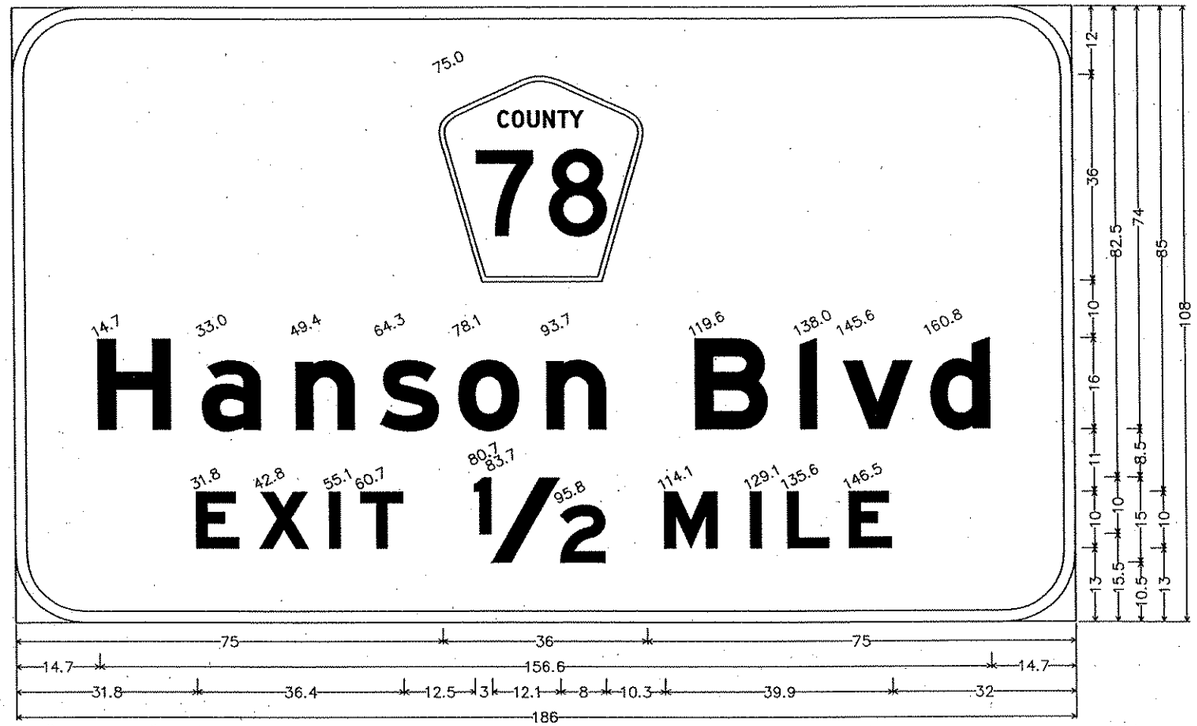
CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 387 / 681

PLOT DATE: Jan 17 12:54pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE1_04v04.dwg

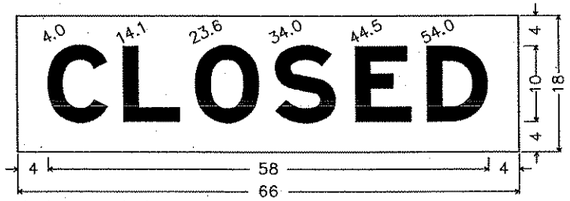
Xref'd Drawings
rl-keel-sig
F-DWG-BDR
x34bdr

FOR REFERENCE ONLY – DO NOT MAKE



12.0" Radius, 2.0" Border, White on Green;
[HansonBlvd] E Mod; [EXIT] White E Mod; [1] White E Mod; [/] White E Mod; [2] White E Mod; [MILE] White E Mod;

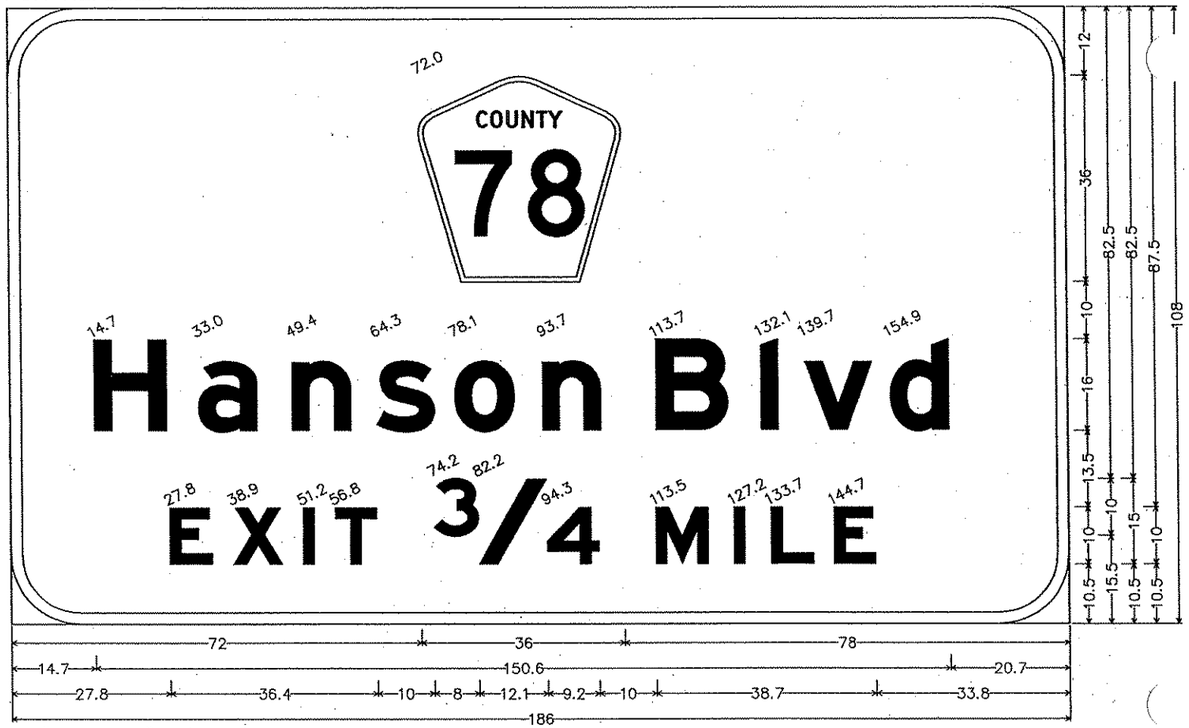
WZ–22 NONE REQUIRED



No border, Black on Orange;
[CLOSED] E Mod

WZ–24 2 REQUIRED

FOR REFERENCE ONLY – DO NOT MAKE



12.0" Radius, 2.0" Border, White on Green;
[HansonBlvd] E Mod; [EXIT] White E Mod 175% spacing; [3] White E Mod 175% spacing; [/] White E Mod; [4] White E Mod 175% spacing;
[MILE] White E Mod 175% spacing;

WZ–23 NONE REQUIRED

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: LM
CHKED. BY: LOM | DWG. NAME: TCSGN05
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

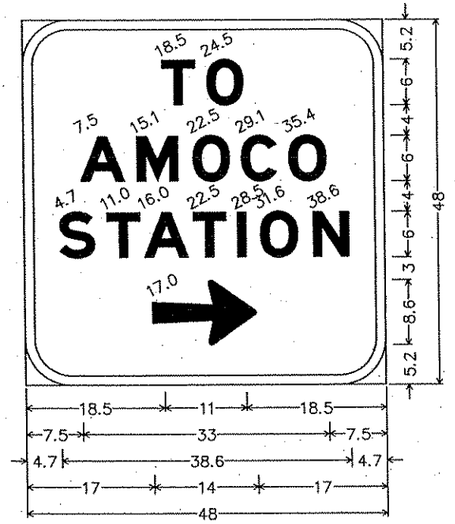
TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
CONSTRUCTION SIGNS
SPECIAL SIGN DETAILS

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 388 / 681

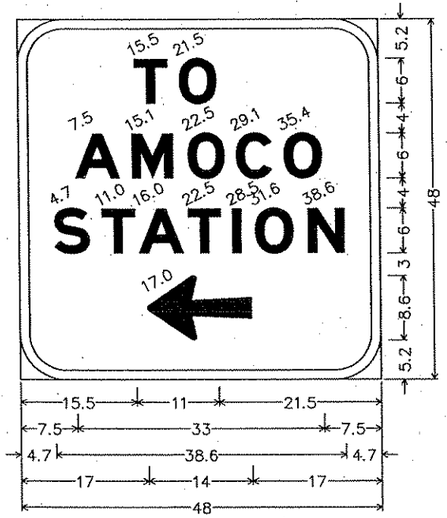
PLOT DATE: Jan 07 12:54pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\WZ05.dwg

Xref'd Drawings
I-keel-sig
F-DWG-BDR
x34bdr



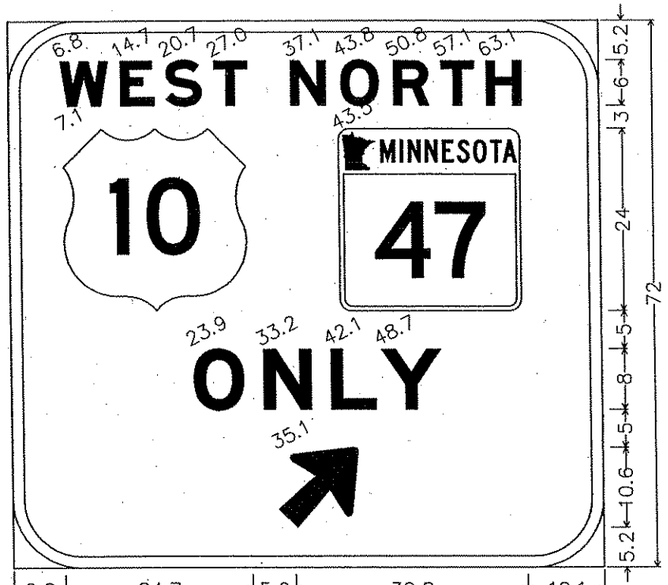
6.0" Radius, 1.3" Border, Black on Orange;
[TO] E Mod 125% spacing;
[AMOCO] E Mod 125% spacing;
[STATION] E Mod 125% spacing;
Arrow 13 – 14.0" 0°

WZ–25 2 REQUIRED



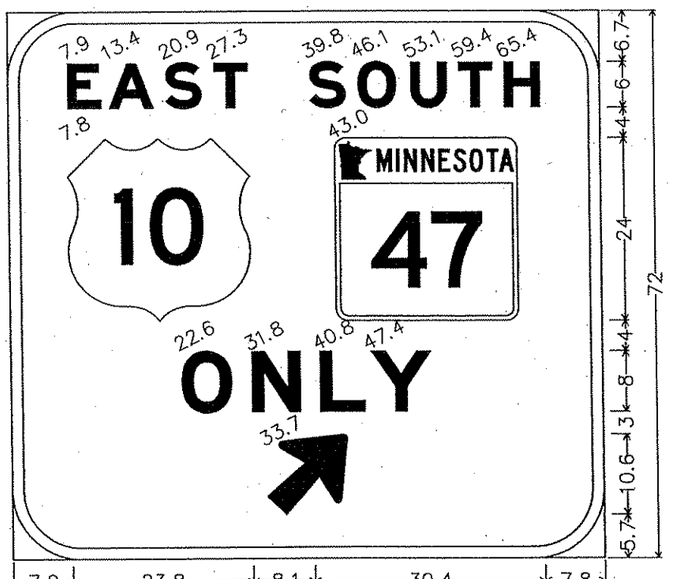
6.0" Radius, 1.3" Border, Black on Orange;
[TO] E Mod 125% spacing;
[AMOCO] E Mod 125% spacing;
[STATION] E Mod 125% spacing;
Arrow 13 – 14.0" 180°

WZ–26 2 REQUIRED



9.0" Radius, 1.5" Border, Black on Orange;
[WEST] E Mod 125% spacing; [NORTH] E Mod 125% spacing;
[ONLY] E Mod 125% spacing; Arrow 5 – 13.0" 45°

WZ–27 2 REQUIRED



9.0" Radius, 1.5" Border, Black on Orange;
[EAST] E Mod 125% spacing; [SOUTH] E Mod 125% spacing;
[ONLY] E Mod 125% spacing; Arrow 5 – 13.0" 45°

WZ–28 2 REQUIRED

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: LM
CHKED. BY: LOM | DWG. NAME: TCSGN06
DATE: JANUARY 8, 2006

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
TRAFFIC CONTROL
CONSTRUCTION SIGNS
SPECIAL SIGN DETAILS

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 389 / 681

PLOT DATE: Jan 07 12:54pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAF-CONT-STAGE\0 ...nv06.dwg

karl-keel-sig
22x34bdr

NOTES & GUIDELINES

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR WILL PLACE NECESSARY 'SPOTTING' AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

EPOXY:

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOXY RESIN LINE 4" WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES F° OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

PAINT:

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50°F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING

MATERIAL CAN BE APPLIED.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

POLY PREFORM INLAY APPLICATION:

MAT TEMPERATURE SHALL BE CHECKED USING A THERMOMETER TO MAKE SURE THE INLAY IS BEING DONE IN THE PROPER TEMPERATURE RANGE. THE TEMPERATURE SHOULD MEASURE BETWEEN 150° F (ASPHALT FIRM ENOUGH TO WALK ON) AND 120° F. APPLICATION BELOW 120° F MAY NOT GET A PROPER INLAY. INLAYS ARE NOT RECOMMENDED AFTER SEPTEMBER 15th AS THE ASPHALT COOLS TOO FAST AT THIS TIME OF THE YEAR.

NO PRIMERS ARE USED FOR INLAY APPLICATION. DO NOT INSTALL LANE LINES ON AN ASPHALT SEAM. ROLLING OF ALL THE MARKINGS SHOULD BE LENGTHWISE IN THE DIRECTION THEY WERE LAID. FOR CROSSWALKS AND STOP BARS, INITIAL TAMPING WITH THE TAMPING CART IS RECOMMENDED USING ONLY 100 LBS. OF WEIGHT.

USE COMPACTION ROLLER TO EMBED (INLAY) MARKINGS INTO PAVEMENT SURFACE. USE MINIMUM SPEED AND WATER ON ROLLER. DO NOT USE VIBRATOR. IF MARKING BUCKLES OR DISTORTS SEVERELY IN FRONT OF ROLLER, MAT TEMPERATURE OR ROLLER SPEED MAY BE TOO HIGH.

POLY PREFORM GROOVED APPLICATION:

CONCRETE PAVEMENT SURFACES AND BITUMINOUS PAVEMENT SURFACES WHERE PAVEMENT MARKINGS CANNOT BE INLAID IN THE HOT MAT, SHALL BE GROOVED FOR THE INSTALLATION OF DURABLE REFLECTORIZED PAVEMENT MARKINGS. SEE SPECIAL PROVISIONS.

INDEX

FINAL STRIPING

SHEET No.	DESCRIPTION
1	TITLE SHEET
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3	PAVEMENT MARKING DETAILS, STANDARD
4 - 7	PAVEMENT MARKING DETAILS, TYPICAL
8 - 13	TABULATIONS
14 - 21	ROADWAY LAYOUTS
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24 - 28	PLACEMENT DETAILS
29 - 39	STRUCTURAL DETAILS
40 - 45	CROSS SECTIONS

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: MNDOT | DESIGN BY: MNDOT
CHKED. BY: BWR | DWG. NAME: 042PM01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD
INTERCHANGE
SIGNING AND STRIPING PLAN
STRIPING INFORMATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 390 / 681

PLOT DATE: Jan 17 12:07pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042PM01

Xref'd Drawings
ar1-keel-sig
EF-DWG-BDR
2x34bdr

PERMANENT PAVEMENT MARKINGS

Z

STATION TO STATION	NOTES	2582 PAVEMENT MESSAGE (LT ARROW) POLY PREFORM EACH	2582 PAVEMENT MESSAGE (RT ARROW) POLY PREFORM EACH	2582 PAVT MESSAGE (RIGHT-THRU ARROW) POLY PREFORM EACH	2582 4" SOLID LINE WHITE POLY PREFORM L F	2582 4" SOLID LINE WHITE EPOXY L F	2582 8" SOLID LINE WHITE EPOXY L F	2582 4" SOLID LINE YELLOW EPOXY L F	2582 4" DOUBLE SOLID LINE YELLOW [3] EPOXY L F	2582 8" DOTTED LINE WHITE [2] EPOXY L F	2582 24 INCH STOP LINE WHITE POLY PREFORM L F	2582 24 INCH SOLID LINE YELLOW EPOXY L F	2582 4" BROKEN LINE WHITE [1] POLY PREF-GR IN L F	2582 4" BROKEN LINE WHITE [1] POLY PREFORM L F	2582 4" BROKEN LINE WHITE [1] EPOXY L F	2582 CROSSWALK MARKING POLY PREFORM SQ. FT.
S.P. 02-611-29, 114-020-28																
HANSON BOULEVARD NB																
STA. 1+39 TO STA. 7+45		3		2		945		374			44				110	162
STA. 7+45 TO STA. 11+87.46			1			530		372							160	162
STA. 16+90.98 TO STA. 23+92		4	2			1180		725		56	75				260	
HANSON BOULEVARD SB																
STA. 1+39 TO STA. 7+45			1			386		381							100	144
STA. 7+45 TO STA. 11+87.46		2	1			1075		371		45	49				80	162
STA. 16+90.98 TO STA. 23+92		4				1781		725			51				260	162
NORTHDALE BLVD. EB (CSAH 11)																
EB STA. 0+00 TO STA. 21+97			2			2145		469	1564	57		436				144
WB STA. 0+00 TO STA. 21+97		5	1	2		2970		475	862		40				120	144
NORTHDALE BLVD. WB (CSAH 11)		2	1			409		124			49					288
ROBINSON DRIVE						243		123			50				20	324
CORNER PLAZA PARKING LOT						368										
S.P. 02-611-29, 114-020-28	TOTAL	20	9	4	0	12032	0	4139	2426	158	358	436	0	0	1110	1692
S.P. 02-678-17, 114-020-28																
HANSON BOULEVARD NB																
STA. 23+92 TO STA. 41+27						895		589	269	28					280	162
HANSON BOULEVARD SB																
STA. 23+92 TO STA. 41+27		2	2			1477		593	654		68	94			360	378
S.P. 02-678-17, 114-020-28	TOTAL	2	2	0	0	2372	0	1182	923	28	68	94	0	0	640	540
S.P. 0215-59, 114-010-14 HANSON BLVD / HWY 10/47 INTERCHANGE																
TH 10/47 EASTBOUND																
STA. 328+00 TO STA. 332+44						445		445					210			
STA. 336.44 TO STA. 386+20						3868		5374					1080			
STA. 378+04 TO STA. 389+20						86		98					20			
TH 10/47 WESTBOUND																
STA. 324+15 TO STA. 329+39						511		511					100			
STA. 329+39 TO STA. 375+75						3285		4637					930			
STA. 375+75 TO STA. 380+17						442		440					90			
HANSON BOULEVARD NORTHBOUND																
STA.11+87.46 TO STA. 14+41		2				607		151			60				60	
STA. 14+41 TO STA. 15+34						272				144						
STA. 15+34 TO STA.16+90.98						147		157		17					63	
HANSON BOULEVARD SOUTHBOUND																
STA.11+87.46 TO STA. 14+41						97		151		31					30	
STA. 15+34 TO STA.16+90.98		2	1			467		157			60				62	
RAMP A																
STA. 129+39 TO STA. 152+84						2348	129	1415						102		108
CONNECTION A																
STA. 650+73.65 TO STA. 652+90.74			1			458										
RAMP B																
STA. 253+26 TO STA. 275+75		6	4		1880	2252	630	1696								126
CONNECTION B																
STA. 753+36.87 TO STA. 755+88.18			4			675										90
RAMP C																
STA. 432+44 TO STA. 452+52		6	2		1807	1775		1460								
CONNECTION C																
STA. 850+52.40 TO STA. 853+10.75			1			487										
RAMP D																
STA. 553+54.38 TO STA. 554+09						209		206		6						108
STA. 554+09 TO STA. 586+18					176	3056	322	1826						220		
CONNECTION D																
STA. 953+48.97 TO STA. 955+61.83						438										
S.P. 0215-59, 114-010-14	TOTAL	16	13	0	3863	21925	1081	18724	0	198	120	0	2430	322	215	432
PROJECT TOTALS		38	24	4	3863	36329	1081	24045	3349	384	546	530	2430	322	1965	2664

NOTES: [1] 4" BROKEN LINE WHITE OR YELLOW (10 FT. LINE, 40 FT. SPACE): TABULATED LENGTH DOES NOT INCLUDE GAP.
[2] 8" DOTTED LINE WHITE (3 FT. LINE, 12 FT. SPACE): TABULATED LENGTH DOES NOT INCLUDE GAP.
[3] DOUBLE SOLID LINES WILL BE MEASURED BY THE ACTUAL LENGTH OF BOTH 4 INCH LINES, THAT IS, A DOUBLE SOLID LINE WITH A CENTERLINE DISTANCE OF 1000 FEET WILL BE MEASURED AS 1000 FEET OF DOUBLE SOLID LINE INSTALLED

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DRAWN BY: IKR | DESIGN BY: SAW
CHKED. BY: BWR | DWG. NAME: 042PMTAB
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TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN
PERMANENT PAVEMENT MARKING TABULATION

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 391 / 681

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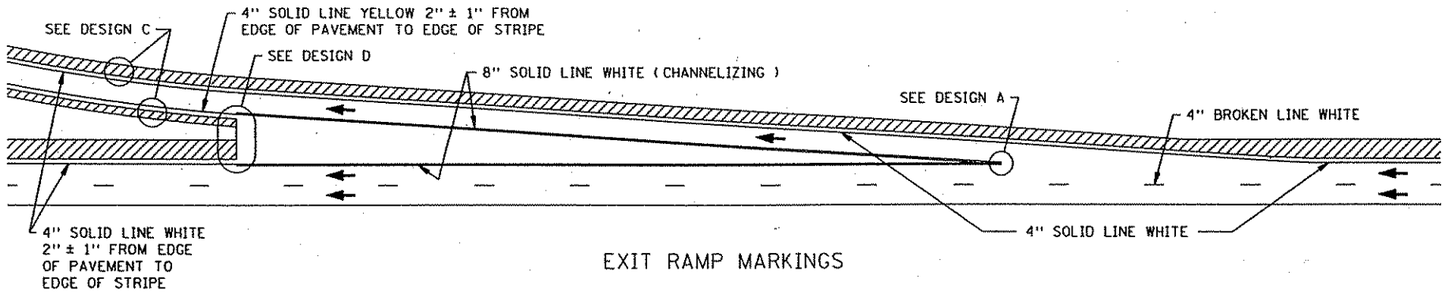
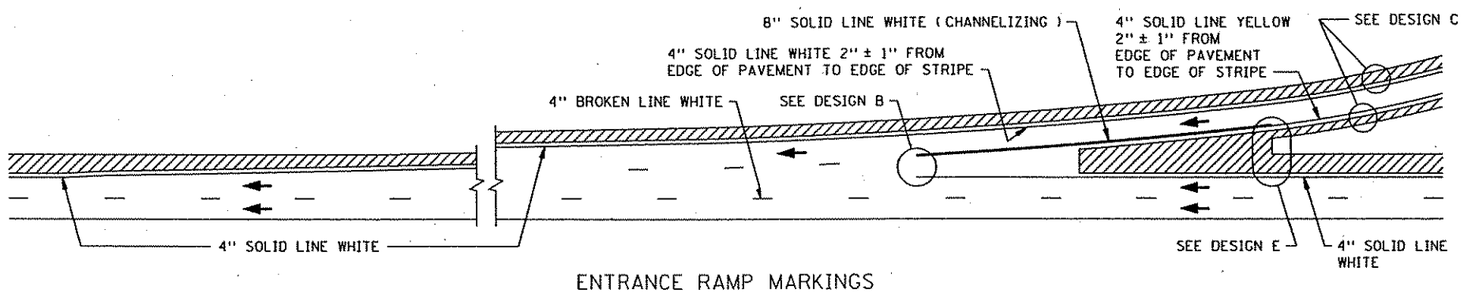


EXIT RAMP MARKINGS



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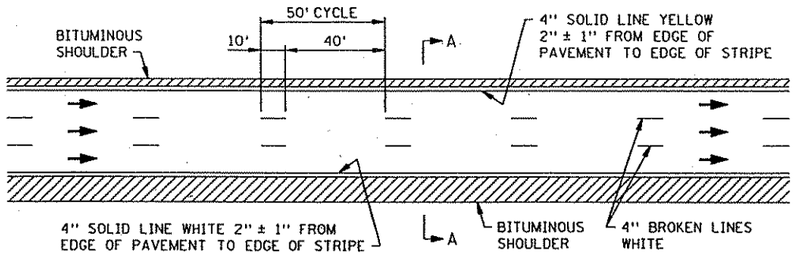
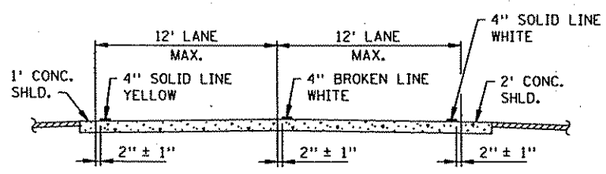


THROUGH LANE MARKINGS



SECTION A-A
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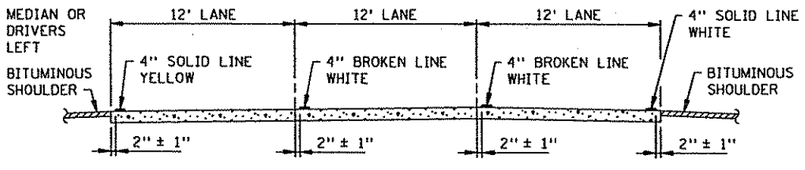

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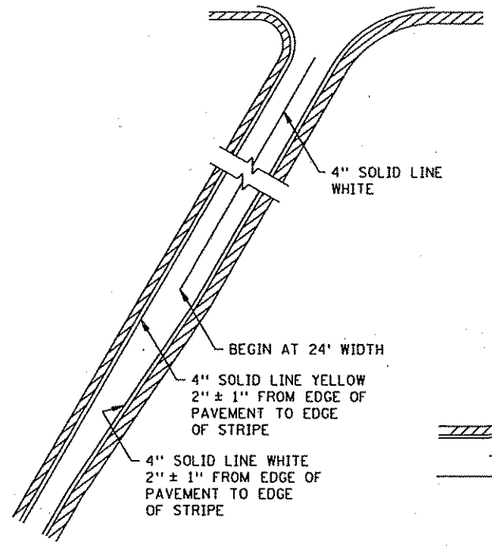
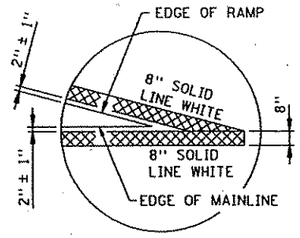
(THREE LANES)



RAMP MARKINGS



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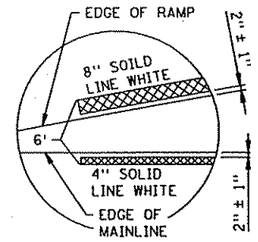

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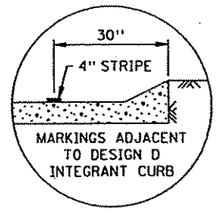

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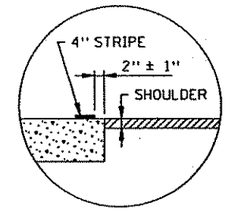

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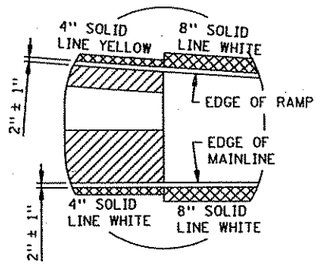
RURAL



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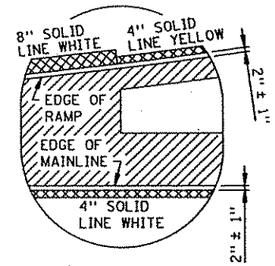
RURAL



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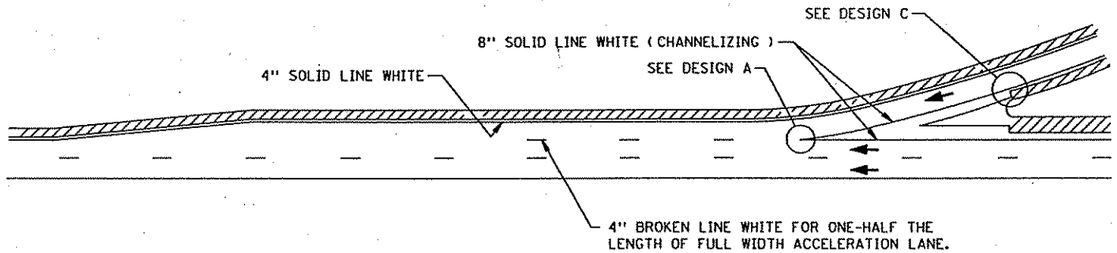
RURAL



PARALLEL ACCELERATION LANE

NOTES:

DENOTES SHOULDER AREA.

DENOTES SHOULDER AREA.

STANDARD SHEET NO. 5-297.341	TITLE: PAVEMENT MARKING DETAILS
STANDARD APPROVED: MARCH 12, 1998	

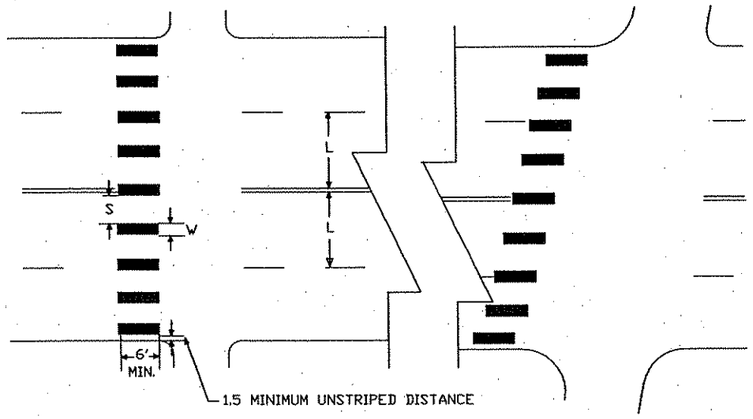
STATE PROJ.NO. 0215-59 (T.H. 10) SHEET NO. 392 OF 681 SHEETS

FILE NAME S341

carl-keel-sig
22x34bdr

MARKINGS FOR PEDESTRIAN CROSSWALKS

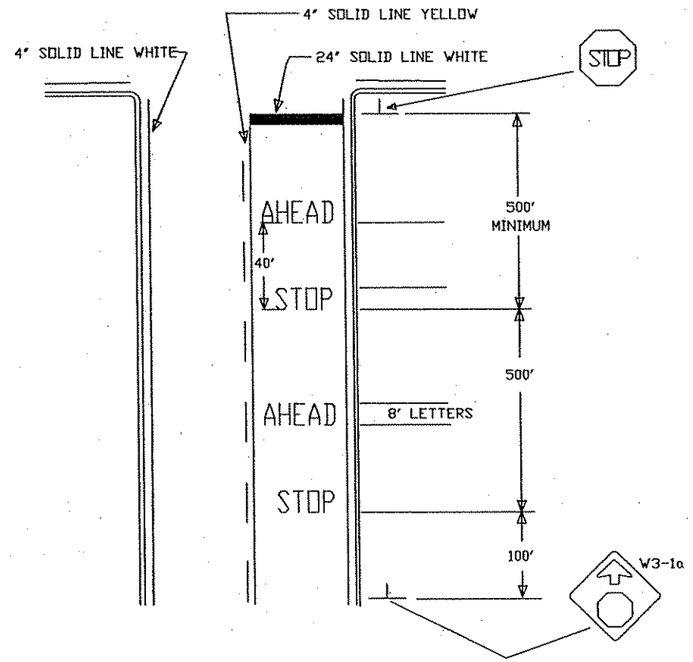
(L) WIDTH OF INSIDE LANE	(W) WIDTH OF PAINTED AREA	(S) WIDTH OF SPACE
9′	2.0′	2.5′
10′	2.5′	2.5′
11′	2.5′	3.0′
12′	3.0′	3.0′
13′	3.0′	3.5′



NOTES:

1. PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
2. A MINIMUM OF 1.5 FT. CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
3. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 11 FT. INSIDE LANE.
4. FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE BLOCKS SHOULD BE MADE IN THE MEDIAN SO THAT THE BLOCKS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
5. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES AS SHOWN.

PLACEMENT FOR "STOP AHEAD" MARKINGS AND STOP LINES



NOTES:

1. DOUBLE MESSAGE AS SHOWN SHOULD BE PLACED WHEREVER APPROACH SPEEDS ARE OVER 40 MPH.
2. IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN

   THEM. 35 MPH SPEED LIMIT OR LESS. . . 500′
   40-50 MPH SPEED LIMIT. . . . . 650′
   55 MPH SPEED LIMIT. . . . . 800′

3. STOP LINES SHOULD ORDINARILY BE PLACED 4 FEET IN ADVANCE OF AND PARALLEL TO THE NEAREST CROSSWALK LINE. IN THE ABSENCE OF A MARKED CROSSWALK, THE STOP LINE SHOULD BE PLACED AT THE DESIRED STOPPING POINT, AND IN NO CASE NO MORE THAN 30 FEET OR NO LESS THAN 4 FEET FROM THE NEAREST EDGE OF THE INTERSECTING CURB LINE OR NEAR EDGE OR SHOULDER.

   IF A STOP LINE IS USED IN CONJUCTION WITH A STOP SIGN, IT SHOULD ORDINARILY BE PLACED IN LINE WITH THE STOP SIGN. HOWEVER, IF THE SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO STOP, THE STOP LINE SHOULD BE PLACED AT THE STOPPING POINT.

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DESIGN FILE:	33889-042
DRAWN BY: MNDOT	DESIGN BY: MNDOT
CHKED. BY: BWR	DWG. NAME: 042PM03
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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Karl F. Keel

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DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD
INTERCHANGE
SIGNING AND STRIPING PLAN
PAVEMENT MARKING DETAILS
TYPICAL

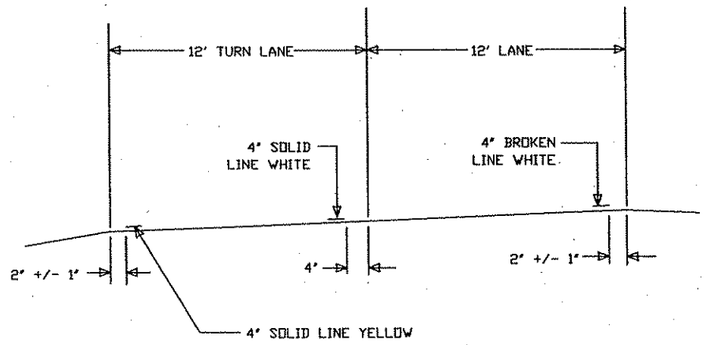
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 393 / 681

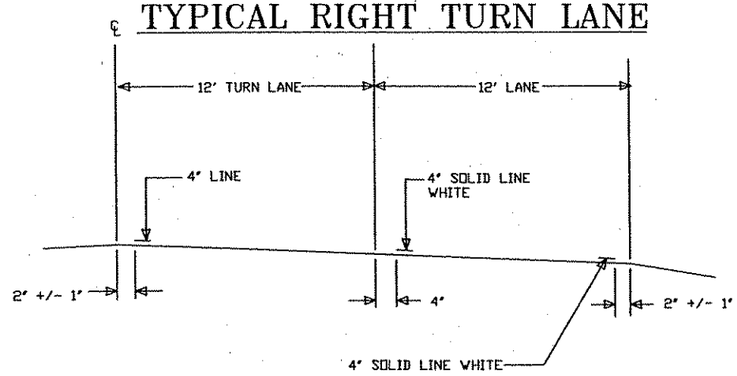
PLOT DATE: Jan 17 12:07pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042PM03

karl-keel-sig
12x34bdr

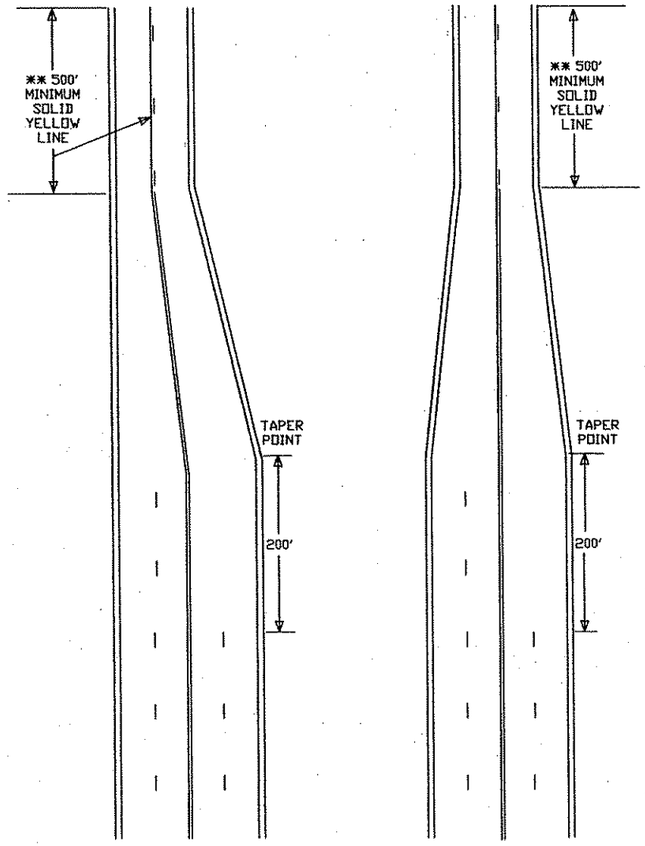
TYPICAL LEFT TURN LANE



TYPICAL RIGHT TURN LANE



TYPICAL LANE REDUCTION TRANSITION

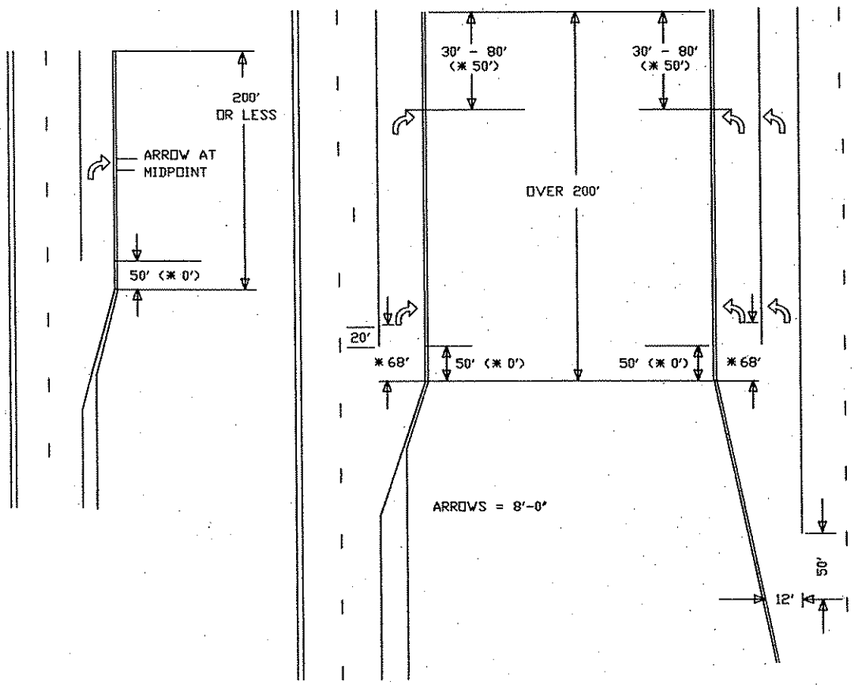


* SEE 'TYPICAL MESSAGE PLACEMENT FOR TURN LANES' FOR NUMBER OF ARROWS.

** IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

35 MPH SPEED LIMIT OR LESS. . . 500'
40-50 MPH SPEED LIMIT. . . . . 650'
55 MPH SPEED. LIMIT. . . . . 800'

TYPICAL MESSAGE PLACEMENT FOR TURN LANES

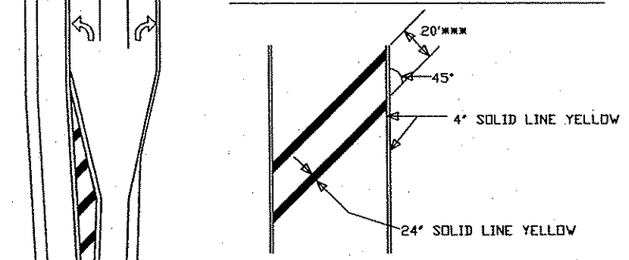


* DENOTES DIMENSIONS FOR TURN LANES ON:
HANSON BOULEVARD
NORTHDALE BOULEVARD
ROBINSON DRIVE

FOR TURN LANES ON RAMPS USE STANDARD DIMENSIONS

DUAL LEFT TURN LANES

TYPICAL MARKINGS FOR LEFT TURN ISLANDS



AT SPEEDS LESS THAN 40 MPH THE WIDTH OF THE CROSSHATCH LINE MAY BE REDUCED TO 12".

*** AT SPEEDS OVER 40 MPH THE SPACING MAY BE INCREASED TO 30' BETWEEN CROSSHATCH LINES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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DRAWN BY: MNDOT | DESIGN BY: MNDOT
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DATE: JANUARY 8, 2007

URS
Thresher Square
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TH 10/HANSON BOULEVARD
INTERCHANGE
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PAVEMENT MARKING DETAILS
TYPICAL

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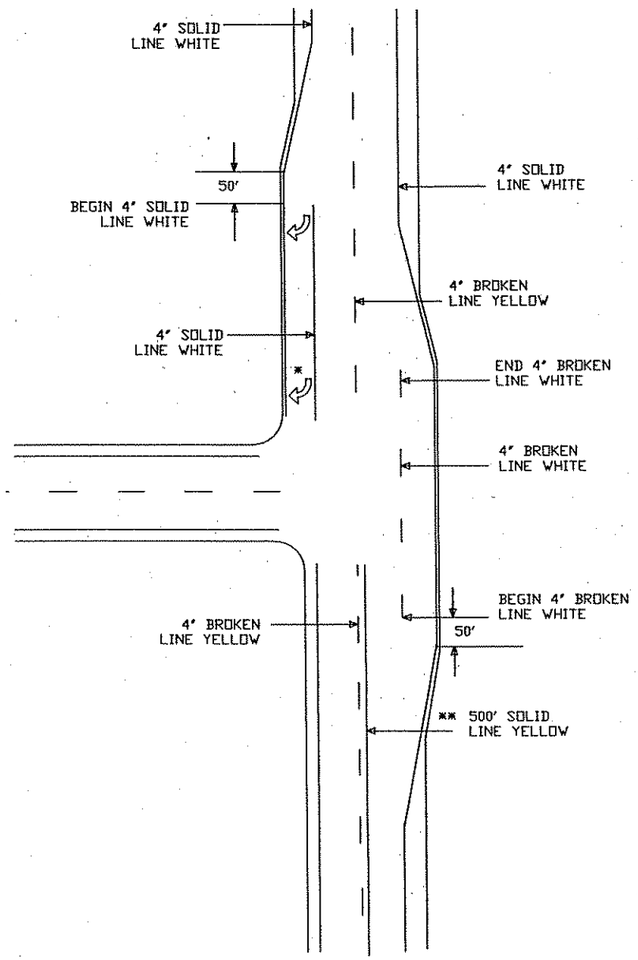
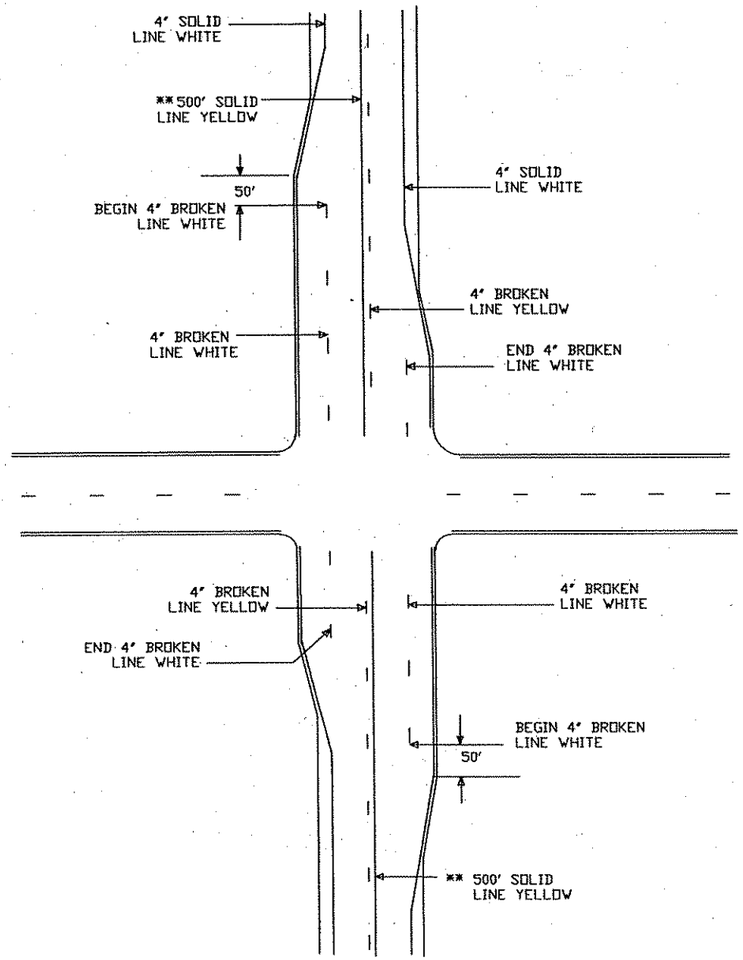
kart-keel-stg
22x34bdr

MARKINGS FOR BYPASS LANES



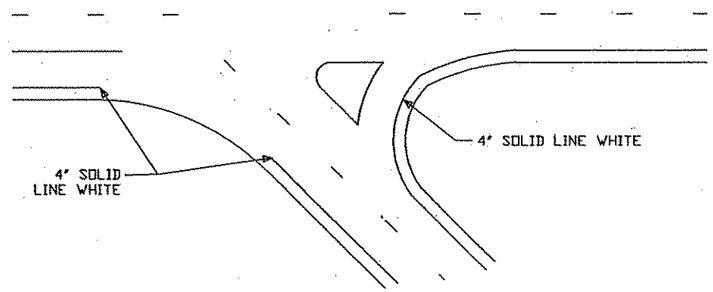


* SEE "TYPICAL MESSAGE PLACEMENT FOR TURN LANES" FOR NUMBER OF ARROWS.

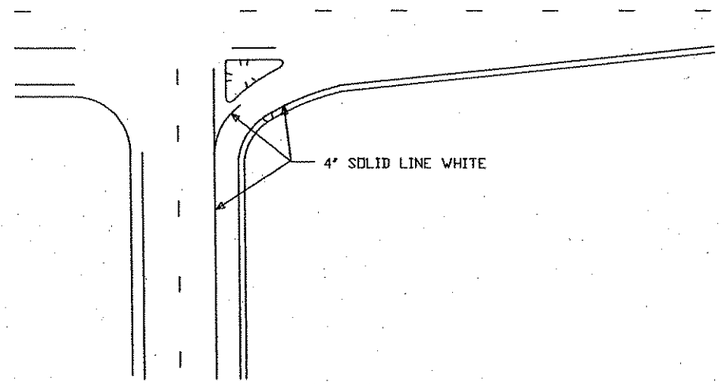
** IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

35 MPH SPEED LIMIT OR LESS. . . 500'
40-50 MPH SPEED LIMIT. . . . . 650'
55 MPH SPEED LIMIT. . . . . 800'

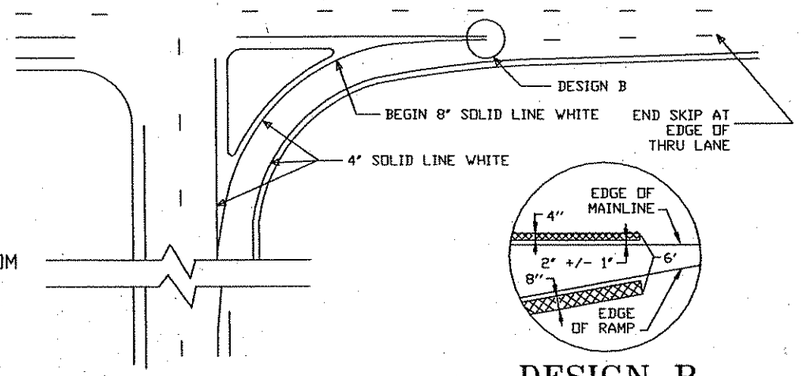
FREE RIGHT STOP CONDITION



FREE RIGHT YIELD CONDITION



FREE RIGHT MERGE CONDITION



DESIGN B

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: MNDOT	DESIGN BY: MNDOT
CHKED. BY: BWR	DWG. NAME: 042PM05
DATE:	JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl F. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

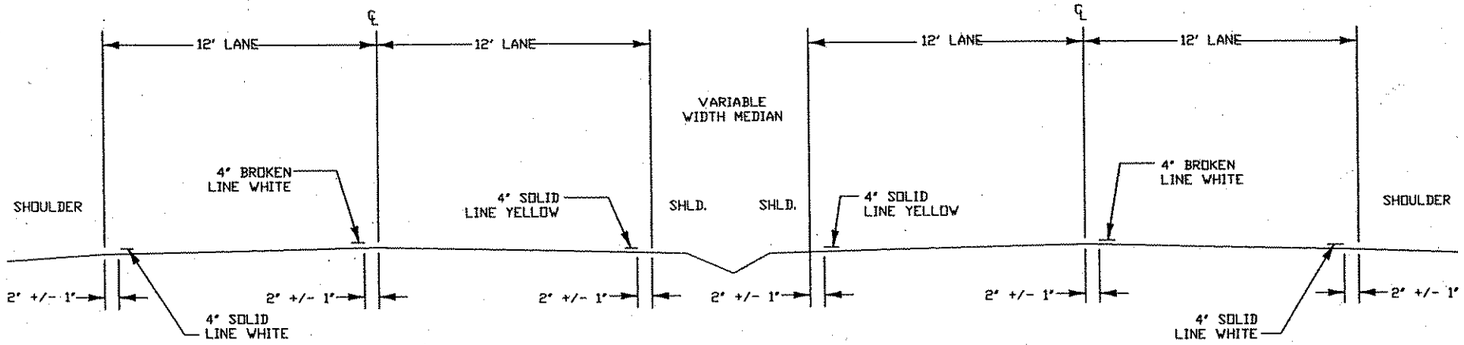
TH 10/HANSON BOULEVARD
INTERCHANGE
SIGNING AND STRIPING PLAN
PAVEMENT MARKING DETAILS
TYPICAL

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

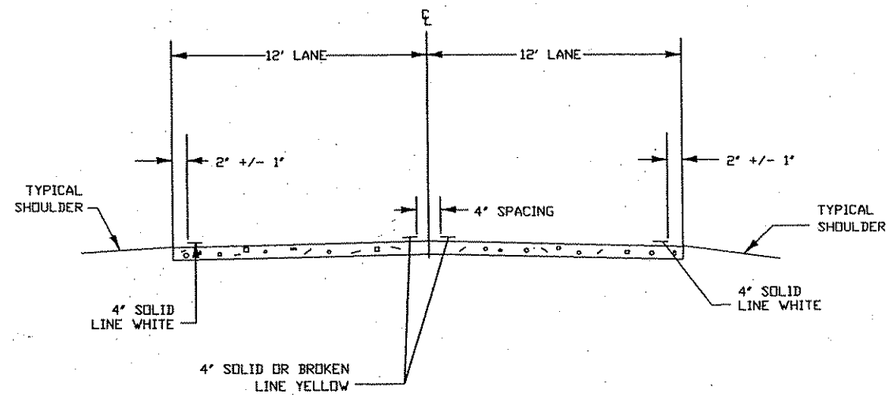
SHEET NO. 395 / 681

PLOT DATE: Jan 7 12:07pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042PM05

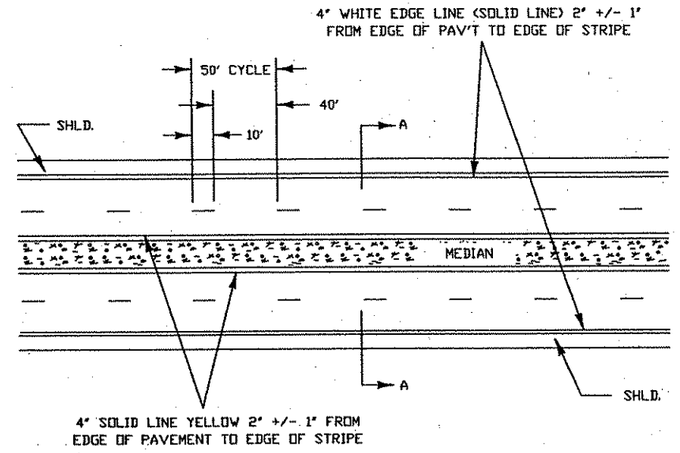
karl-keel-sig
22x34bdr



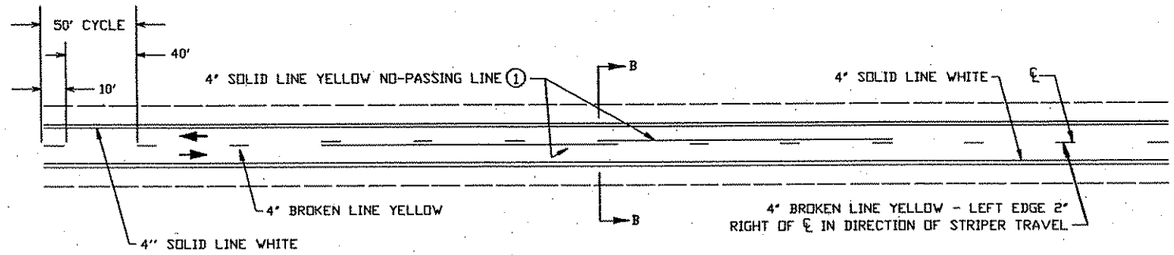
SECTION A-A
FOUR LANES



SECTION B-B



TYPICAL 4-LANE DIVIDED LANE MARKINGS



TWO LANE-TWO WAY TRAFFIC MARKINGS

(1) CONTACT TRAFFIC ENGINEER FOR NO PASSING ZONE SURVEY.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: MNDOT | DESIGN BY: MNDOT.
CHKED. BY: BWR | DWG. NAME: 042PM06
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD
INTERCHANGE
SIGNING AND STRIPING PLAN
PAVEMENT MARKING DETAILS
TYPICAL

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

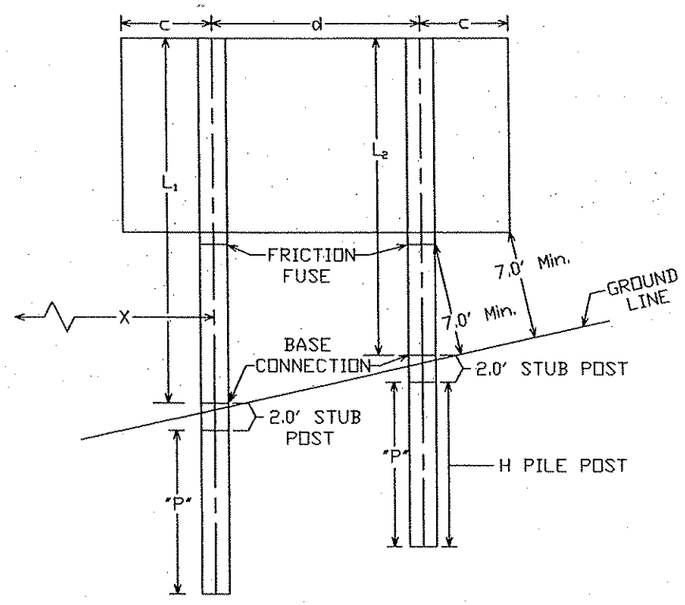
SHEET NO. 396 / 681

PLOT DATE: Jan 17 12:07pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042PM06

kart-keel-sig
22x34bdr

SIGN TYPE A (H PILE FOOTINGS)															AE	
SIGN NO.	LOCATION	PANEL SIZE (IN.)	PANEL AREA (SQ. FT.)	POST SIZE	POST QUANT.	L1 (FT.)	L2 (FT.)	ADDITIONAL STEEL PER POST (LBS.)	POST WEIGHT (LBS.)	c (IN.)	d (IN.)	PILE "P" (FT.)	PILE WEIGHT (LBS.)	TOTAL WEIGHT STRUCTURAL STEEL (LBS.)	"X" (FT.)	"H" (FT.)
A–1	331+50 EB	186 x 120	[1]	W 6 X 20	2	18.00	17.00	104	908.00	39	108	12	480.00	1388.00	40	5
A–2	377+00 WB	186 x 120	[1]	W 6 X 20	2	19.50	17.50	104	948.00	39	108	12	480.00	1428.00	43	7
TOTAL														2816.00		

[1] SALVAGED SIGN PANEL. DETAIL NOT SHOWN IN THIS PLAN



BREAKAWAY POSTS-H-PILE FOOTING
(L_1 IS POST NEAREST ROADWAY)

POST QUANTITIES			
POST SIZE	QUANTITY (2)	POST SIZE	QUANTITY (2)
W4X13	59+13 LBS\FT	W8X28	143+28 LBS\FT
~~W5X16~~	~~64+16 LBS\FT~~	W8X31	173+31 LBS\FT
W6X20	104+20 LBS\FT	W10X39	195+39 LBS\FT
W8X24	118+24 LBS\FT		

SALVAGE SIGN TYPE A					AG
SIGN NO.	LOCATION	PANEL SIZE (IN.) EXTRUDED TYPE	POSTS SIZE BREAK–AWAY	L1 (FT.)	L2 (FT.)
A–1	142+00 EB	186 x 120	W6X20	13.5	14.5
A–2	212+75 WB	186 x 120	W8X20	14.0	15.0
TOTAL	2 EACH				

SPECIFIC NOTE:
(2) CONSTANT INCLUDES STUB POST WEIGHT.

GENERAL NOTES:
1. PILE SHALL BE THE SAME SIZE AS THE SIGN POST AND IS TO BE DRIVEN TO A 12 TO 14 TON BEARING CAPACITY.
2. SEE SHEETS 29 AND 30 OF 45 FOR STRUCTURAL DETAILS, TYPE A SIGNS (BREAKAWAY).
3. POSTS LENGTHS ARE APPROXIMATE.
4. "X" IS THE DISTANCE FROM THE EDGE OF THE THRU LANE TO THE FIRST POST.
5. "H" IS THE HEIGHT ABOVE THE PAVEMENT EDGE TO THE BOTTOM EDGE OF PANEL.
6. P IS THE LENGTH OF H-PILE POST.
7. SEE SHEETS 40 AND 41 OF 45 FOR CROSS SECTIONS.

TYPE A SIGNS

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: MNDOT | DESIGN BY: MNDOT
CHKED. BY: BWR | DWG. NAME: ADATA528
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD
INTERCHANGE
SIGNING AND STRIPING PLAN
A SIGN DATA SHEET
H-PILE FOOTING

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 397 / 681

PLOT DATE: Jan 97 12:07pm DISK: FILE NAME: (16.1) R:\33889\338890042\PLAN-SHT\SIGN-STRIPE\Adata528

SIGN PANELS TYPE C

AD

SIGN No.	POST			MINIMUM MOUNTING HEIGHT [1]	SIGN			S.P. 114-020-28 S.P. 02-611-29 CSAH 11 [2]		S.P. 114-020-28 S.P. 02-678-17 CSAH 78		S.P. 114-010-14 S.P. 0215-59 TH 10/47 INTERCHANGE		TOTAL	SIGN LEGEND	NOTES
	No. AND TYPE	KNEE BRACE EACH	LENGTH [1] LIN FT	FT	PANEL CODE	SIZE INCHES	EACH SQ FT	QTY.	SQ. FT.	QTY.	SQ. FT.	QTY.	SQ. FT.	SQ. FT.		
C-1	2U		13	7	R1-1	30 x 30	6.25	3	18.75	2	12.50			31.25	STOP	
C-2	1U		13	7	R5-10d	18 x 24	3.00					2	6.00	6.00	PEDESTRIANS, BICYCLES, MOTORIZED BICYCLES, NON-MOTORIZED TRAFFIC PROHIBITED	
C-3	1U		14	7	R1-2	36x36x36	3.90					1	3.90	3.90	YIELD	
C-4	2U		13	7	R2-1	24 x 30	5.00	1	5.00	1	5.00			10.00	SPEED LIMIT 45 MPH	
C-5	2U		13	7	R3-7R	30 x 30	6.25	3	18.75					18.75	RIGHT LANE MUST TURN RIGHT	[7]
C-6	2U	1	13	7	R3-30AB	36 x 30	7.50	6	45.00			2	15.00	60.00	LT. TURN ONLY/LT. TURN ONLY	[7]
C-7	2U	1	15	7	R3-30AB	36 x 30	7.50	2	15.00					15.00	LT. TURN ONLY/LT. TURN ONLY	[6] [7]
					R4-7	24 x 30	5.00		10.00					10.00	KEEP RIGHT	
					X4-2	18 x 18									HAZARD MARKER	[5]
C-8			13	7	R4-7	24 x 30	5.00					2	10.00	10.00	KEEP RIGHT	[4] [9]
					X4-2	18 x 18									HAZARD MARKER	[5]
C-9	2U	1	13	7	R5-1	30 x 30	6.25	1	6.25					6.25	DO NOT ENTER	[6] [7]
					R5-1	30 x 30	6.25		6.25					6.25	DO NOT ENTER	
C-10	2U	1	13	7	R3-30ABLA	54 x 30	11.25					3	33.75	33.75	LT.TURN ONLY/LT.TURN ONLY/RT.TURN ONLY	
C-11	1U		13	7	R3-X1	30 x 30	6.25	2	12.50					12.50	RIGHT TURN LANE	[7]
C-12	1U		13	7	R3-X2	30 x 30	6.25	2	12.50	1	6.25			18.75	LEFT TURN LANE	[7]
C-13	2U		13	7	R4-7	24 x 30	5.00	5	25.00	3	15.00			40.00	KEEP RIGHT	[4] [7]
					X4-2	18 x 18									HAZARD MARKER	[5]
C-14	2U		13	7	R5-1	30 x 30	6.25	8	50.00	4	25.00			75.00	DO NOT ENTER	[7]
C-15			13	7	R5-1a	42 x 30	8.75					2	17.50	17.50	WRONG WAY	[10]
C-16			13	7	R5-10d	18 x 24	3.00					2	6.00	6.00	PEDESTRIANS, BICYCLES, MOTORIZED BICYCLES, NON-MOTORIZED TRAFFIC PROHIBITED	[10]
C-17	2U		12	7	R6-1R	36 x 12	3.00	1	3.00	1	3.00			6.00	ONE-WAY (RIGHT)	[7] [3]
C-18	2U	1	12	7	R6-1R	36 x 12	3.00	1	3.00					3.00	ONE-WAY (RIGHT)	[6][7][3]
					R6-1R	36 x 12	3.00		3.00					3.00	ONE-WAY (RIGHT)	
C-19	2U		14	7	R3-6R	30 x 36	7.50	1	7.50					7.50	THRU / RT TURN	
C-20	2U	1	13	7	R3-30AA	36 x 30	7.50					2	15.00	15.00	LT. TURN ONLY/RT. TURN ONLY	[3]
C-21	2U	1		7	R10-6R	24 x 36	6.00					3	18.00	18.00	STOP HERE ON RED (RIGHT)	
C-22	1U		14	7	R1-2	36x36x36	3.90					1	3.90	3.90	YIELD	[7]
C-23	2U	1	13	7	R3-30ABBLA	66 x 30	13.75					2	27.50	27.50	LT (TURN) ONLY/LT ONLY/RT ONLY/RT ONLY	
C-24	2U		13	7	R10-X7	24 x 30	5.00					2	10.00	10.00	FORM 2 LANES WHEN METERED	
C-25	2U	1	13	7	R16-X4	36 x 36	9.00					4	36.00	36.00	EMERGENCY STOPPING ONLY	
C-26	2U		15	7	W1-2L	30 x 30	6.25	1	6.25					6.25	CURVE (LEFT)	
					W13-1	18 x 18	2.25		2.25					2.25	SPEED ADVISORY 35 MPH	
C-27	2U	1	13	7	R5-1	36 x 36	9.00					2	18.00	18.00	DO NOT ENTER	[7]
C-28	2U		16	7	W1-2R	30 x 30	6.25	1	6.25					6.25	CURVE (RIGHT)	
					W13-1	18 x 18	2.25		2.25					2.25	SPEED ADVISORY 40 MPH	
C-29				7	R3-30ABLA	54 x 30	11.25					1	11.25	11.25	LT.TURN ONLY/LT.TURN ONLY/RT.TURN ONLY	[10]
C-30	1U		13	7	W1-8	18 x 24	3.00	6	18.00					18.00	CHEVRON	
C-31	2U	1	15	7	W3-3	36 x 36	9.00	1	9.00					9.00	SIGNAL AHEAD	
C-32	2U	1	16	7	W4-1R	48 x 48	16.00					3	48.00	48.00	MERGE RIGHT (FREEWAY)	
C-33	2U	1	15	7	W6-1	36 x 36	9.00			1	9.00			9.00	DIVIDED HIGHWAY	
C-34	2U		14	7	W6-3	30 x 30	6.25	1	6.25	1	6.25			12.50	TWO WAY TRAFFIC	
C-35	2U	1	14	7	W9-1R	36 x 36	9.00			1	9.00	1	9.00	18.00	RIGHT LANE ENDS	[7]
C-36				7	R5-1	48 x 48	16.00					2	32.00	32.00	DO NOT ENTER	[10]
C-37				7	W9-2R	36 x 36	9.00					1	9.00	9.00	LANE ENDS MERGE RIGHT	[10]
C-38	2U	1	14	7	W9-2L	36 x 36	9.00			1	9.00			9.00	LANE ENDS MERGE LEFT	
C-39	2U		14	7	W6-2	36 x 36	9.00			1	9.00			9.00	DIVIDED HIGHWAY ENDS	
C-40	2U		14	7	M3-2a	24 x 12	2.00	1	2.00					2.00	EAST	
					M1-6	24 x 24	4.00		4.00					4.00	ANOKA COUNTY ROUTE MARKER - 11	
C-41	2U	1	14	7	W14-X9	30 x 36	7.50					2	15.00	15.00	WATCH FOR BUSES ON SHOULDER	
C-42	2U		14	7	M3-3a	24x12	2.00	1	2.00					2.00	SOUTH	
					M1-6	24 x 24	4.00		4.00					4.00	ANOKA COUNTY ROUTE MARKER - 78	
C-43	1U		14	7	M1-6	24 x 24	4.00	1	4.00					4.00	ANOKA COUNTY ROUTE MARKER - 78	
					M6-4a	21 x 15	2.19		2.19					2.19	DOUBLE ARROW	[11]
C-44	1U		14	7	M1-6	24 x 24	4.00	1	4.00					4.00	ANOKA COUNTY ROUTE MARKER - 11	
					M6-1a	21 x 15	2.19		2.19					2.19	LEFT ARROW	
C-45	2U		14	7	M2-1a	21 x 15	2.19			1	2.19			2.19	JUNCTION	
					M1-6	24 x 24	4.00				4.00			4.00	ANOKA COUNTY ROUTE MARKER - 11	
C-46	2U		15	7	M2-1a	21 x 15	2.19	1	2.19					2.19	JUNCTION	
					M1-6	24 x 24	4.00		4.00					4.00	ANOKA COUNTY ROUTE MARKER - 78	
C-47	2U	1	14	7	W9-1R	36 x 36	9.00			1	9.00			9.00	RIGHT LANE ENDS	

SEE SHEET 10 OF 45 FOR NOTES

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: SAW
CHKED. BY: BWR | DWG. NAME: 042SGTAB1
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN
TABULATION
SIGN PANELS TYPE C

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 398 / 681

Xref'd Drawings
:arl-keel-stg
KEF-DWG-BDR
22x34bdr
PLOT DATE: Jan .007 12:07pm DISK FILE NAME: (16.1) R:\33689\33889042\PLAN-SHT\SIGN-STRIPE\042SG

Xref'd Drawings
ctrl-keel-sig
IEF-DWG-BDR
12x34bdr

SIGN PANELS TYPE C

AD

SIGN No.	POST No. AND TYPE	POST KNEE BRACE EACH	POST LENGTH [1] LIN FT	MINIMUM MOUNTING HEIGHT [1] FT	SIGN PANEL CODE	SIGN SIZE INCHES	SIGN EACH SQ FT	S.P. 114-020-28 S.P. 02-611-29 CSAH 11 [2] QTY.	S.P. 114-020-28 S.P. 02-611-29 CSAH 11 [2] SQ. FT.	S.P. 114-020-28 S.P. 02-678-17 CSAH 78 QTY.	S.P. 114-020-28 S.P. 02-678-17 CSAH 78 SQ. FT.	S.P. 114-010-14 S.P. 0215-59 TH 10/47 INTERCHANGE QTY.	S.P. 114-010-14 S.P. 0215-59 TH 10/47 INTERCHANGE SQ. FT.	TOTAL SQ. FT.	SIGN LEGEND	NOTES
C-48	2U		16	7	M3-2a	24 x 12	2.00		2.00					2.00	EAST	
					M1-6	24 x 24	4.00	1	4.00					4.00	ANOKA COUNTY ROUTE MARKER - 11	[7]
					M6-1a	21 x 15	2.19		2.19					2.19	RIGHT ARROW	
C-49	2U		15	7	M3-4a	24 x 12	2.00		2.00					2.00	WEST	
					M1-6	24 x 24	4.00	1	4.00					4.00	ANOKA COUNTY ROUTE MARKER - 11	[7]
					M6-1a	21 x 15	2.19		2.19					2.19	RIGHT ARROW	
C-50	1U	1	15	7	M3-4a	24 x 12	2.00				2.00			2.00	WEST	
					M1-6	24 x 24	4.00			1	4.00			4.00	ANOKA COUNTY ROUTE MARKER - 11	
					M6-3a	21 x 15	2.19				2.19			2.19	AHEAD ARROW	[11]
C-51	1U	1	15	7	M3-2a	24 x 12	2.00				2.00			2.00	EAST	
					M1-6	24 x 24	4.00			1	4.00			4.00	ANOKA COUNTY ROUTE MARKER - 11	
					M6-1a	21 x 15	2.19				2.19			2.19	LEFT ARROW	
C-52	2U		15	7	M3-2a	24 x 12	2.00		2.00					2.00	EAST	
					M1-6	24 x 24	4.00	1	4.00					4.00	ANOKA COUNTY ROUTE MARKER - 11	
					M6-3a	21 x 15	2.19		2.19					2.19	AHEAD RIGHT ARROW	[7] [11]
C-53	2U		15	7	M3-4a	24 x 12	2.00		2.00					2.00	WEST	
					M1-6	24 x 24	4.00	1	4.00					4.00	ANOKA COUNTY ROUTE MARKER - 11	
					M6-1a	21 x 15	2.19		2.19					2.19	LEFT ARROW	
C-54	2U		13	7	R3-X1	30 x 30	6.25	2	12.50					12.50	RIGHT TURN LANE	
C-55	2U	1	14	7	W9-2R	36 x 36	9.00					1	9.00	9.00	LANE ENDS MERGE RIGHT	
C-56	2U		14	7	M3-4a	24 x 12	2.00	1	2.00					2.00	WEST	
					M1-6	24 x 24	4.00		4.00					4.00	ANOKA COUNTY ROUTE MARKER - 11	[7] [11]
C-57	2U		14	7	M3-3a	24 x 12	2.00	1	2.00					2.00	SOUTH	
					M1-6	24 x 24	4.00		4.00					4.00	ANOKA COUNTY ROUTE MARKER - 78	
C-58	2U		14	7	M3-1a	24 x 12	2.00			1	2.00			2.00	NORTH	
					M1-6	24 x 24	4.00				4.00			4.00	ANOKA COUNTY ROUTE MARKER - 78	
C-59	2U	1	15	7	W3-3	48 x 48	16.00					2	32.00	32.00	SIGNAL AHEAD	
C-60	2U	1	14	7	W4-3R	36 x 36	9.00	1	9.00					9.00	ADDED LANE RIGHT	[7]
C-61	2U	1	13	7	R3-30CA	36 x 30	7.50	1	7.50					7.50	THRU ONLY/RT. TURN ONLY	[7]
C-62	2U		14	7	W6-2	36 x 36	9.00			1	9.00			9.00	DIVIDED HIGHWAY ENDS	[7]
C-63	2U		15	7	W1-2L	30 x 30	6.25	1	6.25					6.25	CURVE (LEFT)	
					W13-1	18 x 18	2.25		2.25					2.25	SPEED ADVISORY 40 MPH	
				PROJECT TOTALS =					404.56		155.56		385.80	945.93		

SPECIFIC NOTES:

[1] MOUNTING HEIGHT IS MINIMUM; SEE DETAILS ON SHEET 33 OF 45 FOR TYPICAL MOUNTING.
[2] INCLUDES QUANTITIES FOR ROBINSON DRIVE AND NORTHDALE BOULEVARD (CSAH 11 WESTBOUND).
[3] FOR PUNCHING AND MOUNTING DETAILS, SEE SHEET 34 OF 45.
[4] DELINEATION MARKING REQUIRED ON BACK OF SIGN PANEL.
[5] SEE OBJECT MARKERS AND DELINEATORS TAB.
[6] MOUNT BACK TO BACK.
[7] MOUNTED IN CONCRETE WALK. SEE SHEET 36 OF 45.
[8] NOT USED
[9] MOUNTED ON SIGNAL PEDESTAL.
[10] MOUNT ON RETAINING WALL BARRIER. SEE SHEET 37 OF 45.
[11] INSTALL PER NOTE 11 ON SHEET 32 OF 45.

GENERAL NOTES:

1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
2. SEE SHEETS 32 - 34 OF 45 FOR STRUCTURAL DETAILS.
3. SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C SIGN PANELS.
4. SIGN POSTS ON COUNTY ROADS SHALL BE PAINTED BLACK PER PROJECT SPECIFICATIONS (SP 02-611-29, 114-020-28)
5. SIGN POSTS ON CITY STREETS AND STATE TRUNK HIGHWAYS SHALL BE GALVANIZED STEEL PER MNDOT STANDARD SPECIFICATIONS (SP 0215-59, 114-010-14)

SALVAGE SIGN TYPE C	AH
LOCATION	EACH
INTERCHANGE	41
HANSON BLVD. S.P. 02-611-29, 114-020-28	54
HANSON BLVD. S.P. 02-678-17, 114-020-28	12
NORTHDALE BLVD.	17
PROJECT TOTAL	124

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: SAW
CHKED. BY: BWR | DWG. NAME: 042SGTAB1A
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN
TABULATION
SIGN PANELS TYPE C

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 399 / 681

PLOT DATE: Jan 07 12:07pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042SGT.

Xref'd Drawings
rl-keel-sig
F-DWG-BDR
!x34bdr

SALVAGE SIGN TYPE D						AI
SIGN NO.	QUANT.	POSTS NO. & TYPE	POSTS KNEE BRACES QUANT.	PANEL SIZE (IN.)	PANEL LEGEND	NOTES
D-101	2	2-U	2	72 x 60	EXIT	
D-102	1	2-U	2	84 x 54	10 EAST LEFT LANE	
D-103	1	2-U	2	78 x 78	EAST 10 WEST	
D-104	1	2-U	2	78 x 78	WEST 10 EAST	
D-105	1	2-U	2	78 x 78	SOUTH 10 NORTH	
D-106	1	2-U	2	78 x 78	NORTH 10 SOUTH	
D-107	1	2-U	2	96 x 66	WEST NORTH 10 47	
D-108	1	2-U	2	96 x 66	EAST SOUTH 10 47	
TOTAL	9					

SALVAGE & INSTALL SIGN TYPE D											AJ
SIGN NO.	QUANT.	POSTS NO. & TYPE	POSTS KNEE BRACES QUANT.	POSTS LEN. (FT.)	POSTS SPACING (IN.)	MTG HT. (FT.) (1)	PANEL SIZE (IN.)			PANEL LEGEND
D-109	1	2-U	1	14	36	7	60	x	36	ADOPT A HIGHWAY Atlas Pet Supply Blaine/Coon Rapids
TOTAL	1									

SIGN PANELS TYPE D												AB
SIGN No.	QTY.	POST No. & TYPE	POST KNEE BRACE EACH	POST LENGTH [1] LIN. FT.	POST SPACING INCH	MOUNTING HEIGHT [1] FT	PANEL SIZE INCHES			PANEL AREA SQ. FT.	PANEL TOTAL AREA SQ. FT.	LEGEND	NOTES
D-1	2	2-U	2	16	42	7	72	X	60	30.00	60.00	EXIT 60°	[3]
D-2	2	2-U	2	17	54	7	78	X	54	29.25	58.50	JCT 10 47	
D-3	2					[2]	96	X	24	16.00	32.00	Hanson Blvd	[2]
TOTAL											150.50		

GENERAL NOTES:
1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
2. SEE SHEETS 32 – 34 OF 45 FOR STRUCTURAL DETAILS.
3. SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C SIGN PANELS.
4. SIGN POSTS ON COUNTY ROADS SHALL BE PAINTED BLACK PER PROJECT SPECIFICATIONS (SP 02-611-29, SP 114-020-28).
5. SIGN POSTS ON CITY STREETS AND STATE TRUNK HIGHWAYS SHALL BE GALVANIZED STEEL PER MNDOT STANDARD SPECIFICATIONS 2564 AND 3401 (SP 0215-59, 114-010-14).

SPECIFIC NOTES:
[1] MOUNTING HEIGHT IS MINIMUM; SEE DETAILS ON SIGNING DETAIL SHEET 33 OF 45 FOR TYPICAL MOUNTING.
[2] MOUNTED ON BRIDGE, SEE SHEET 38 OF 45.
[3] SEE STANDARD SIGNS MANUAL FOR SIGN E5-1.

SIGN PANELS TYPE OVERLAY					AF
CODE No.	QUANTITY	SIZE (INCHES)	AREA (SQ. FT.)	TOTAL (SQ. FT.)	LEGEND
M1-4a	6	24 X 24	4	24	US 10
M1-5b	6	24 X 24	4	24	MN 47
TOTAL =				48	

PLOT DATE: Jan 17 12:07pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042SGTA

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: SAW
CHKED. BY: BWR | DWG. NAME: 042SGTAB2
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN
TABULATION
SIGN PANELS TYPE D

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

Xref'd Drawings
arf-keel-slg
:EF-DWG-BDR
:2x34bdr

DELINEATORS AND MARKERS [2]							AC
	LOCATION		TYPE & QUANTITY				
	STATION	OFFSET	X4-2 [4] YELLOW ON BLACK	X4-4	X4-6 BLACK ON WHITE	X4-6 BLACK ON YELLOW	NOTES
			EACH	EACH	EACH	EACH	
S.P. 0215-59, 114-010-14							
HANSON BLVD / HWY 10/47 INTERCHANGE	13+30	12' LT	1				[1]
	15+44	12' RT	1				[1]
RAMP A / CONNECTION A	139+70-142+90	LT					
	152+55	22' LT	1				[3]
	652+52	12' RT	1				[3]
RAMP B / CONNECTION B	368+15-370+15	LT			3		
	267+75-270+15	RT				4	
	755+03	11' RT	1				[3]
RAMP C / CONNECTION C	338+50-340+50	RT			3		
	338+50-340+90	LT				4	
	851+36	LT	1				[3]
RAMP D / CONNECTION D	569+65-572+85	LT					
	953+88	12' LT	1				[3]
	553+86	22.5' RT	1				[3]
INTERCHANGE SUBTOTAL			8	0	6	8	
S.P. 02-611-29, 114-010-28, C.P. 01-31							
HANSON BOULEVARD	6+90	CL	1				[1]
	8+13	53' LT	1				[3]
	8+25	12' RT	1				[1]
	7+53	77' RT	1				[1]
	7+53	103' RT		1			
	7+92	51' LT	1				
	7+92	70' LT	1				[1]
HANSON BOULEVARD	23+12	12' LT	1				[1]
NORTHDALE BOULEVARD (CSAH 11 EB)	0+89	8' RT	1				[1]
	5+15	5' LT		1			
	5+48	8' RT	1				[1]
	-0+88	20' RT	1				[1]
HANSON BLVD. S.P. 02-611-29, 114-010-28, C.P. 01-31 SUBTOTALS:			10	2	0	0	
S.P. 02-678-17, 114-010-28, C.P. 01-31							
HANSON BOULEVARD	24+73	1' RT	1				[1]
	30+30	6' LT	1				[1]
HANSON BLVD. S.P. 02-611-29, 114-010-28, C.P. 01-31 SUBTOTALS:			2	0	0	0	
PROJECT TOTALS:			20	2	6	8	

GENERAL NOTES:
[1] SEE ROADWAY LAYOUTS FOR DELINEATOR AND MARKER LOCATIONS.
[2] SEE SHEET 28 OF 45 FOR DELINATOR AND MARKER PLACEMENT.

NOTES:
[1] MOUNTED ON "KEEP RIGHT" SIGN POST IN MEDIAN
[2] SEE STANDARD SIGNS MANUAL FOR PANEL DETAILS.
[3] MOUNT ON 3#/FT. POST (MNDOT 3401).
[4] CITY OF COON RAPIDS STREET SIGNS.

SALVAGE DELINEATOR	AA
STATION TO STATION	2104
	EACH
TH 10 WESTBOUND	
327+36 - 378+00	6
TH 10 EASTBOUND	
332+29 - 378+00	12
BRIDGE 10+39 - 18+65	11
RAMP A / CONNECTION A	
144+90 - 151+35	2
RAMP B / CONNECTION B	
255+50 - 260+30	6
RAMP C / CONNECTION C	
445+45 - 447+40	3
TOTAL INTERCHANGE	40
CSAH 02-611-29	
HANSON BOULEVARD	
3+20 - 10+39	6
18+65 - 23+90	1
TOTAL CSAH 02-611-29	7
CSAH 02-678-17	
HANSON BOULEVARD	
23+90 - 32+90	1
TOTAL CSAH 02-678-17	1
PROJECT TOTAL	48

GENERAL NOTES:
1. SEE ROADWAY LAYOUTS FOR DELINEATOR AND MARKER LOCATIONS.
2. SEE SHEET 28 OF 45 FOR DELINATOR AND MARKER PLACEMENT.

SPECIFIC NOTES:
[1] MOUNTED ON "KEEP RIGHT" SIGN POST IN MEDIAN.
[2] SEE STANDARD SIGNS MANUAL FOR PANEL DETAILS.
[3] MOUNT ON 3#/FT. POST (MNDOT 3401).
[4] CITY OF COON RAPIDS STREET SIGN.

SALVAGE AND INSTALL SIGN TYPE SPECIAL [4]	AK
STATION TO STATION	QUANT.
HANSON BLVD	
23+90 - 32+90	2
NORTHDALE BLVD	2
TOTAL	4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: SAW
CHKED. BY: BWR | DWG. NAME: 042SGTAB2A
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

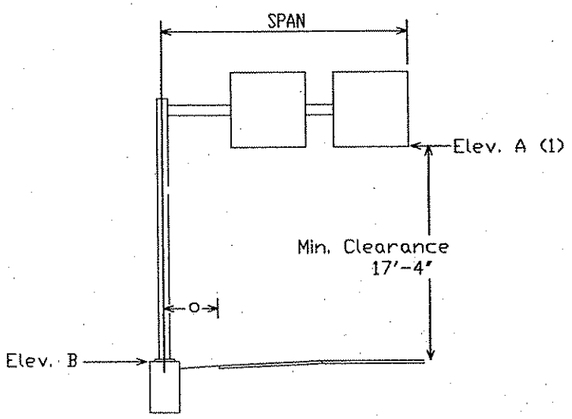
TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN
TABULATION
SPECIAL SIGN PANELS
DELINEATORS & MARKERS

CITY PROJECT 01-31	S.P. 0215-59
S.P. 02-678-17	S.P. 02-611-29
	S.P. 114-020-28
	S.P. 114-010-14

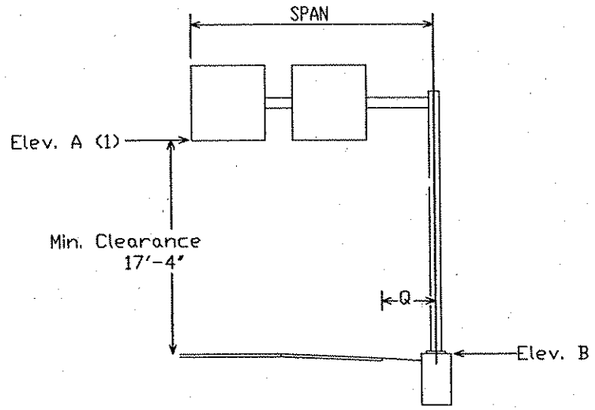
SHEET NO. 401 / 681

PLOT DATE: Jan 07 12:07pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042SGT.slg

karl-keel-sig
22x34bdr



OH 85-10
OH 87-10



OH 84-10
OH 86-10

CANTILEVER SIGN SUPPORT

SIGN NO.	LOCATION	SPAN	PANEL ELEV. A (1)	POST ELEV. B	OVERHEAD SIGN IDENTIFICATION PLATE
OH 84-10	NB HANSON 11+00.00	28'- 0"	116.84	100.35	84 - 10
OH 85-10	NB HANSON 11+50.00	22'- 6"	117.13	100.41	85 - 10
OH 86-10	SB HANSON 20+50.00	28'- 0"	116.84	100.35	86 - 10
OH 87-10	SB HANSON 19+50.00	22'- 6"	116.96	100.32	87 - 10

GENERAL NOTES:

1. ELEVATIONS A AND B ARE SUBJECT TO FIELD ADJUSTMENT BY THE ENGINEER.
2. DIMENSION "O" AND "Q" ARE MEASURED FROM CENTERLINE OF POST TO EDGE OF SHOULDER OR FACE OF CURB.
3. FOR STRUCTURAL DETAILS, SEE SHEET 39 OF 45 .
4. MINIMUM CLEARANCE SHALL BE MEASURED FROM THE HIGHEST ELEVATION OF PAVEMENT, SHOULDER, OR CURB TO THE BOTTOM EDGE OF THE TALLEST SIGN PANEL.
5. SEE SHEETS 42 - 45 OF 45 FOR CROSS SECTIONS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: MNDOT | DESIGN BY: BWR
CHKED. BY: BWR | DWG. NAME: OHSGDATA1
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD
INTERCHANGE
SIGNING AND STRIPING PLAN

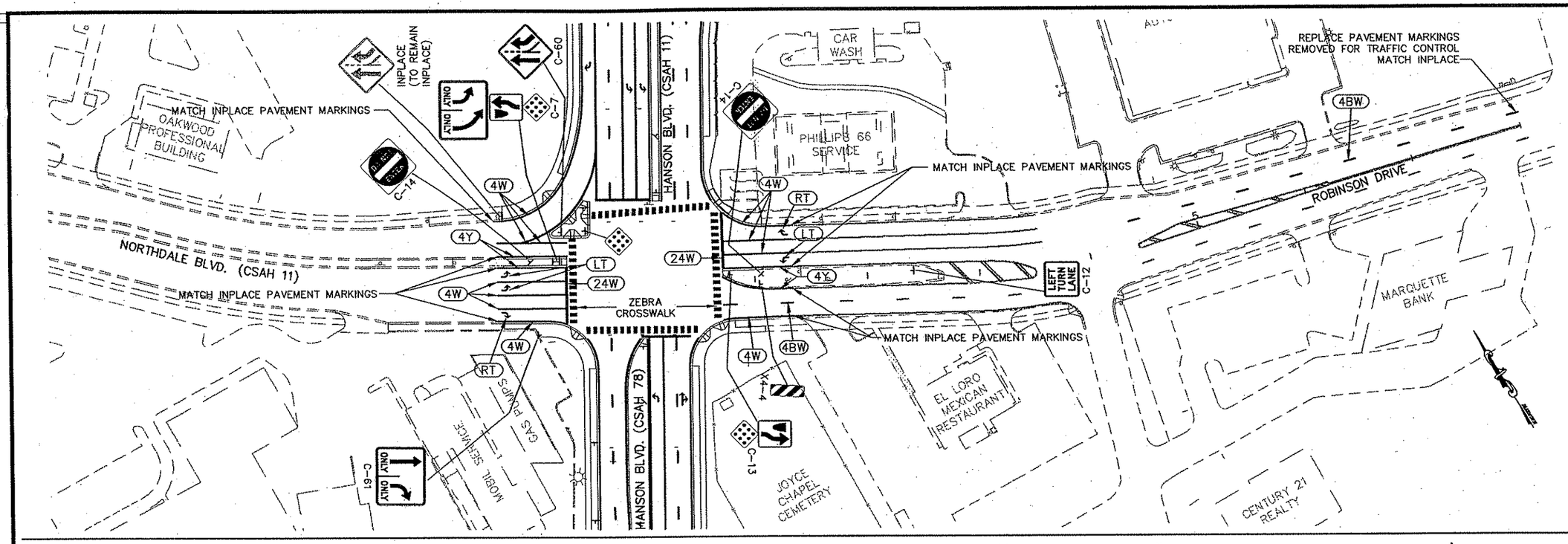
OVERHEAD SIGN DATA SHEET

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 402 / 681

PLOT DATE: Jan 07 12:07pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\0420HS.dwg

Xref'd Drawings
1-keel-sig
2SGNOTES
sn-psg
ISN-PCO
ISN-ETO
ISN-ALI
ISN-BDR

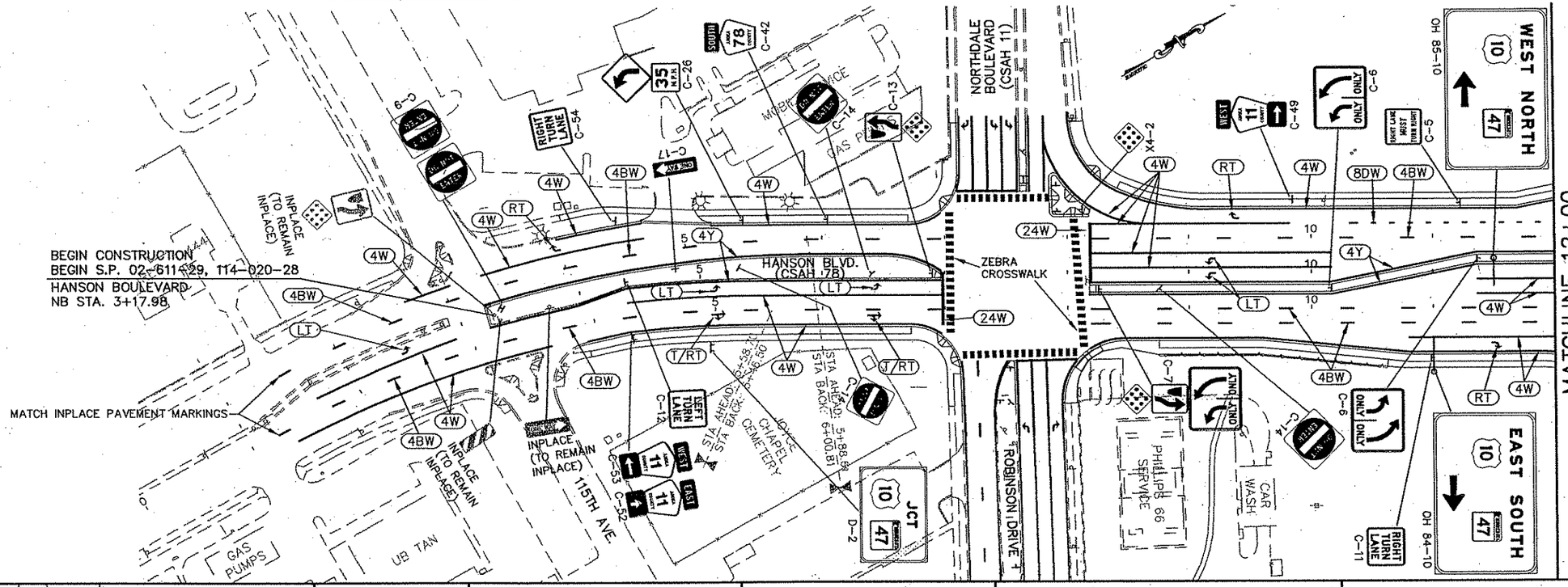


NOTES:

1) ALL SIGNS SHALL BE FURNISHED & INSTALLED UNLESS OTHERWISE NOTED.

2) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.

0 25 50 100
SCALE IN FEET



PERMANENT PAVEMENT MARKING SYMBOLS

- (RT) PAVEMENT MESSAGE, RT.
- (LT) PAVEMENT MESSAGE, LT.
- (T/RT) PAVEMENT MESSAGE, THRU/RT.
- (4W) 4" SOLID LINE WHITE
- (4BW) 4" BROKEN LINE WHITE (10' STRIPE, 40' GAP)
- (4Y) 4" SOLID LINE YELLOW
- (4DY) 4" DOUBLE SOLID LINE YELLOW
- (8DW) INTERSECTION GUIDE MARKS: 8" DOTTED LINE WHITE (3' STRIPE, 12' GAP)
- (8W) 8" SOLID LINE WHITE (CHANNELIZING)
- (24W) 24" STOP LINE WHITE
- (24Y) PAINTED ISLAND: 24" SOLID LINE YELLOW (20' SPACING @ 45°)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: BWR | DWG. NAME: SG-HNSN01
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

SIGNING AND STRIPING PLAN

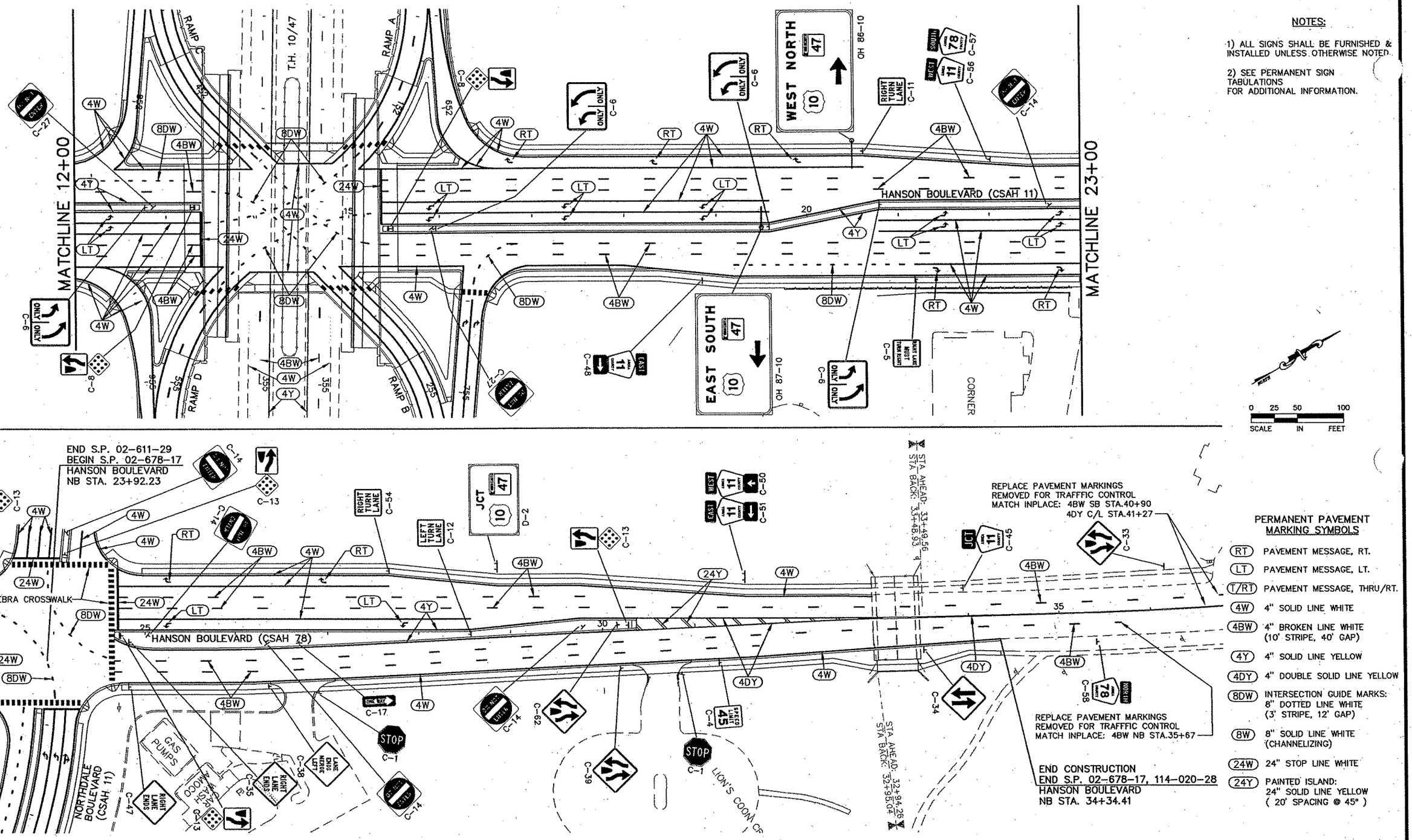
HANSON BOULEVARD
STATION 3+21.24 TO STATION 23+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 403 / 681

PLOT DATE: Jan 7 12:06pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042-SG-[illegible].dwg

Xref'd Drawings
rl-keel-sig
sn-psg
ISN-PCO
2SGNOTES
ISN-ETO
ISN-AU
F-DWG-BDR
x34bdr



NOTES:

1) ALL SIGNS SHALL BE FURNISHED & INSTALLED UNLESS OTHERWISE NOTED.

2) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.

0 25 50 100
SCALE IN FEET

PERMANENT PAVEMENT MARKING SYMBOLS

RT	PAVEMENT MESSAGE, RT.
LT	PAVEMENT MESSAGE, LT.
T/RT	PAVEMENT MESSAGE, THRU/RT.
4W	4" SOLID LINE WHITE
4BW	4" BROKEN LINE WHITE (10' STRIPE, 40' GAP)
4Y	4" SOLID LINE YELLOW
4DY	4" DOUBLE SOLID LINE YELLOW
8DW	INTERSECTION GUIDE MARKS: 8" DOTTED LINE WHITE (3' STRIPE, 12' GAP)
8W	8" SOLID LINE WHITE (CHANNELIZING)
24W	24" STOP LINE WHITE
24Y	PAINTED ISLAND: 24" SOLID LINE YELLOW (20' SPACING @ 45°)

15 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: BWR | DWG. NAME: SG-HNSN02
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 TH
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN
HANSON BOULEVARD
STATION 23+00.00 TO STATION 34+34.41

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 404 / 681

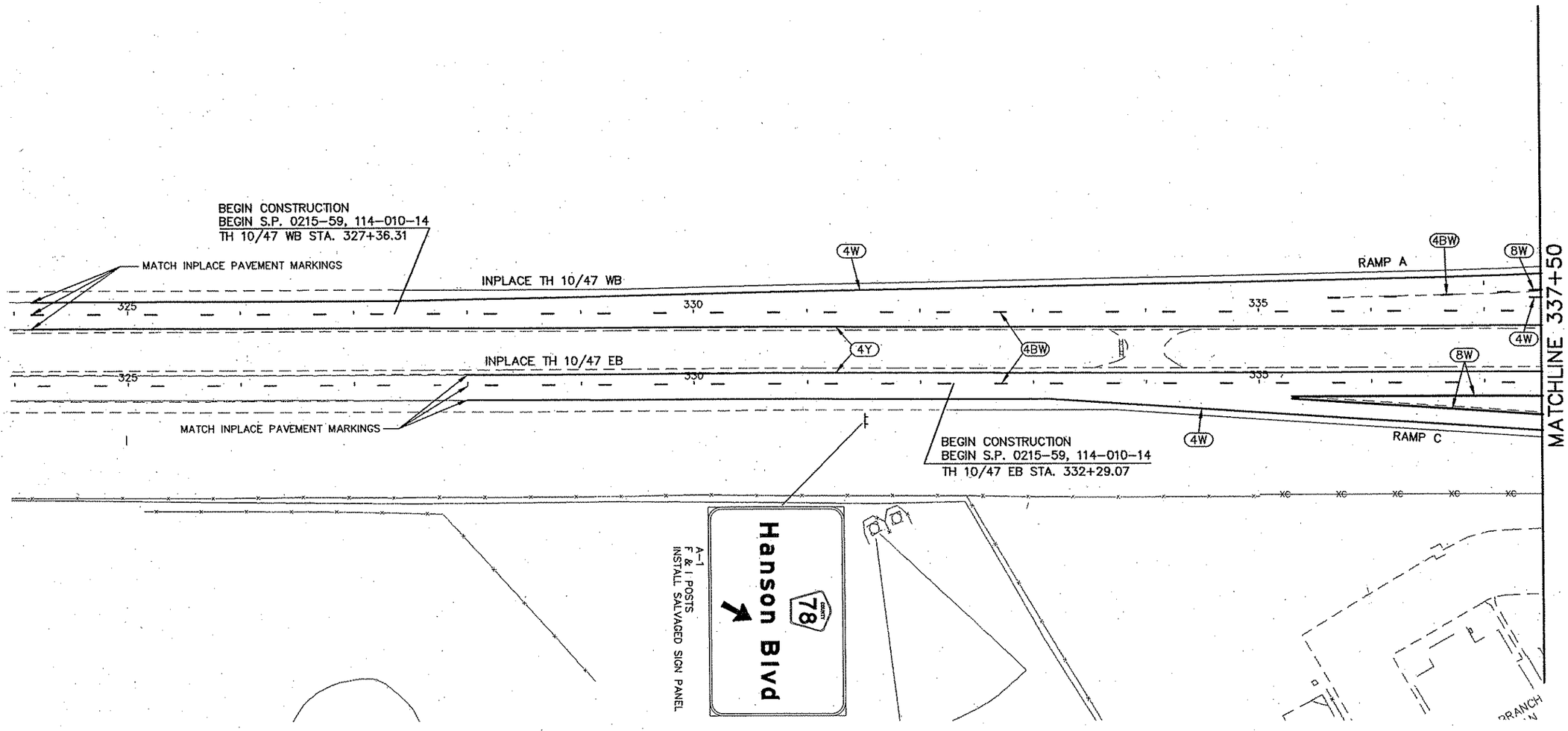
PLOT DATE: Jan 17 12:06pm DISK FILE NAME: (16:1) R:\33889\338890042\PLAN-SHT\SIGN-STRIPE\042-SG2.dwg

Xref'd Drawings
1-keel-slg
2SGNOTES
sn-psg
ISN-PCO
ISN-ETO
ISN-ALI
F-DWG-BDR
x-7

NOTES:

1) ALL SIGNS SHALL BE FURNISHED & INSTALLED UNLESS OTHERWISE NOTED.

2) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.



0 25 50 100
SCALE IN FEET

PERMANENT PAVEMENT MARKING SYMBOLS

- (RT) PAVEMENT MESSAGE, RT.
- (LT) PAVEMENT MESSAGE, LT.
- (T/RT) PAVEMENT MESSAGE, THRU/RT.
- (4W) 4" SOLID LINE WHITE
- (4BW) 4" BROKEN LINE WHITE (10' STRIPE, 40' GAP)
- (4Y) 4" SOLID LINE YELLOW
- (4DY) 4" DOUBLE SOLID LINE YELLOW
- (8DW) INTERSECTION GUIDE MARKS: 8" DOTTED LINE WHITE (3' STRIPE, 12' GAP)
- (8W) 8" SOLID LINE WHITE (CHANNELIZING)
- (24W) 24" STOP LINE WHITE
- (24Y) PAINTED ISLAND: 24" SOLID LINE YELLOW (20' SPACING @ 45°)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: BWR | DWG. NAME: SG-HWY01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

SIGNING AND STRIPING PLAN

HIGHWAY 10/47 AND RAMPS A-D
STATION 325+00.00 TO STATION 337+50.00

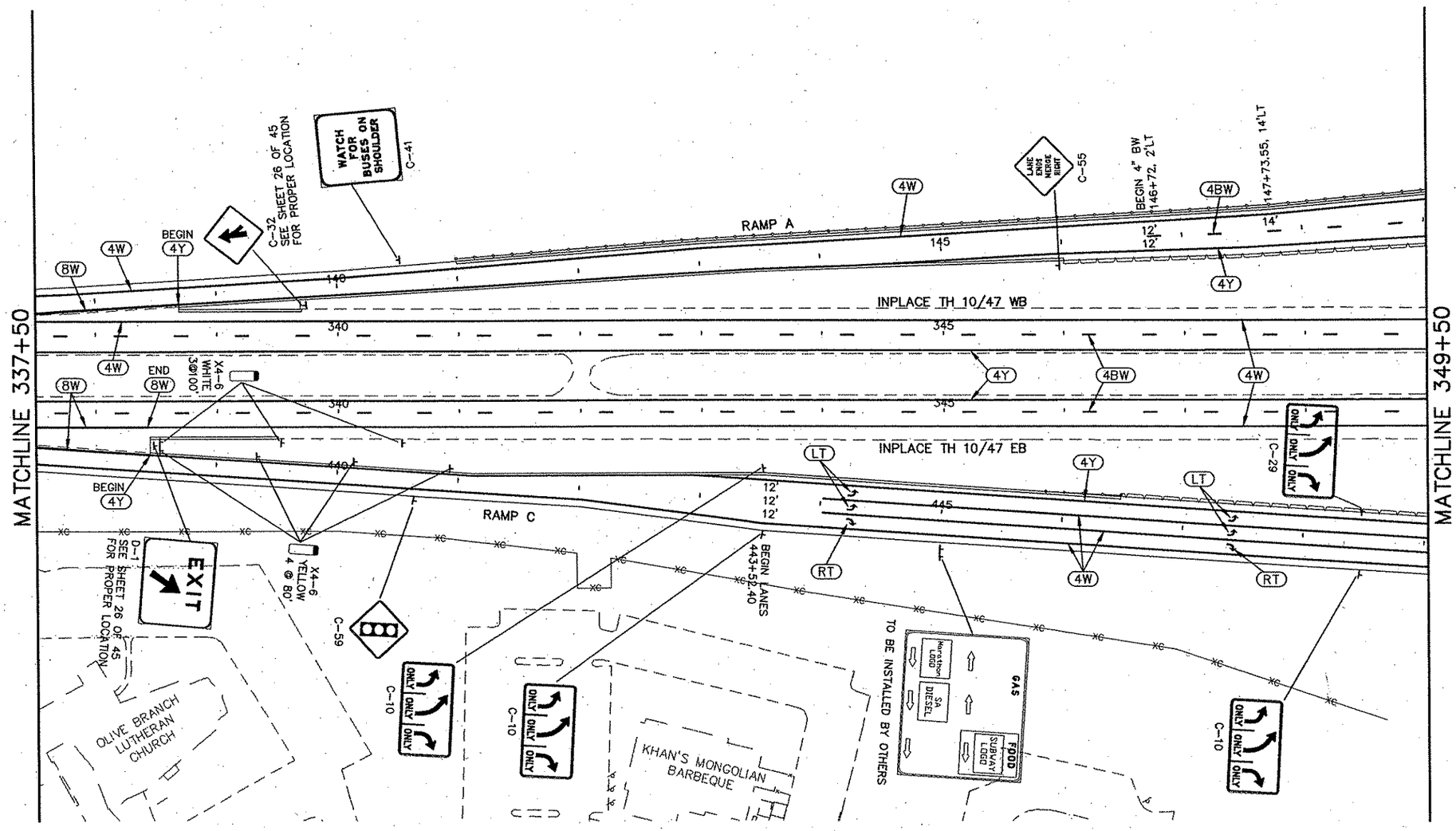
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 405 / 681

PLOT DATE: Jan 8 '7 12:06pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042-SG-dwg

Xref'd Drawings
f-keel-sig
en-pag
ISN-PCD
2SGNOTES
ISN-ETO
ISN-ALJ
F-DWG-BDR
x34bdr

PLOT DATE: Jan 07 12:06pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042-SG2.dwg



NOTES:

1) ALL SIGNS SHALL BE FURNISHED & INSTALLED UNLESS OTHERWISE NOTED.

2) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.

0 25 50 100
SCALE .IN FEET

PERMANENT PAVEMENT MARKING SYMBOLS

- (RT) PAVEMENT MESSAGE, RT.
- (LT) PAVEMENT MESSAGE, LT.
- (T/RT) PAVEMENT MESSAGE, THRU/RT.
- (4W) 4" SOLID LINE WHITE
- (4BW) 4" BROKEN LINE WHITE (10' STRIPE, 40' GAP)
- (4Y) 4" SOLID LINE YELLOW
- (4DY) 4" DOUBLE SOLID LINE YELLOW
- (8DW) INTERSECTION GUIDE MARKS: 8" DOTTED LINE WHITE (3' STRIPE, 12' GAP)
- (8W) 8" SOLID LINE WHITE (CHANNELIZING)
- (24W) 24" STOP LINE WHITE
- (24Y) PAINTED ISLAND: 24" SOLID LINE YELLOW (20' SPACING @ 45°)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: BWR | DWG. NAME: SG-HWY02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

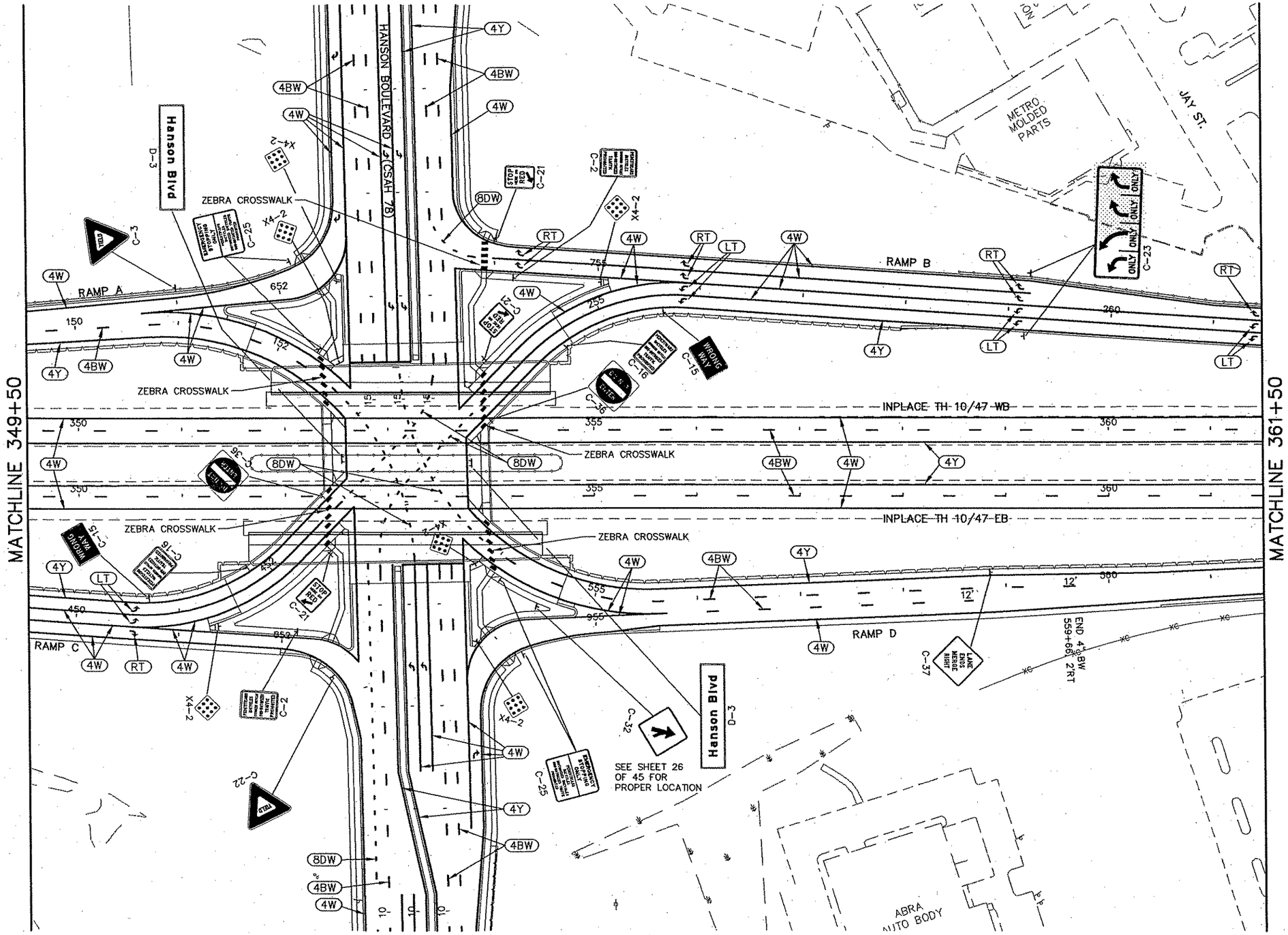
SIGNING AND STRIPING PLAN

HIGHWAY 10/47 AND RAMPS A-D
STATION 337+50.00 TO STATION 349+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 406 / 681

Kraft Drawings
-l-keel-sig
2SGNOTES
sn-psg
SN-FCD
SN-ETD
SN-ALI
F-DWG-BDR



NOTES:

1) ALL SIGNS SHALL BE FURNISHED & INSTALLED UNLESS OTHERWISE NOTED.

2) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.

PERMANENT PAVEMENT MARKING SYMBOLS

- (RT) PAVEMENT MESSAGE, RT.
- (LT) PAVEMENT MESSAGE, LT.
- (T/RT) PAVEMENT MESSAGE, THRU/RT.
- (4W) 4" SOLID LINE WHITE
- (4BW) 4" BROKEN LINE WHITE (10' STRIPE, 40' GAP)
- (4Y) 4" SOLID LINE YELLOW
- (4DY) 4" DOUBLE SOLID LINE YELLOW
- (8DW) INTERSECTION GUIDE MARKS: 8" DOTTED LINE WHITE (3' STRIPE, 12' GAP)
- (8W) 8" SOLID LINE WHITE (CHANNELIZING)
- (24W) 24" STOP LINE WHITE
- (24Y) PAINTED ISLAND: 24" SOLID LINE YELLOW (20' SPACING @ 45°)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: BWR | DWG. NAME: SG-HWY03
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE

SIGNING AND STRIPING PLAN

HIGHWAY 10/47 AND RAMPS A-D
STATION 349+50.00 TO STATION 361+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 407 / 681

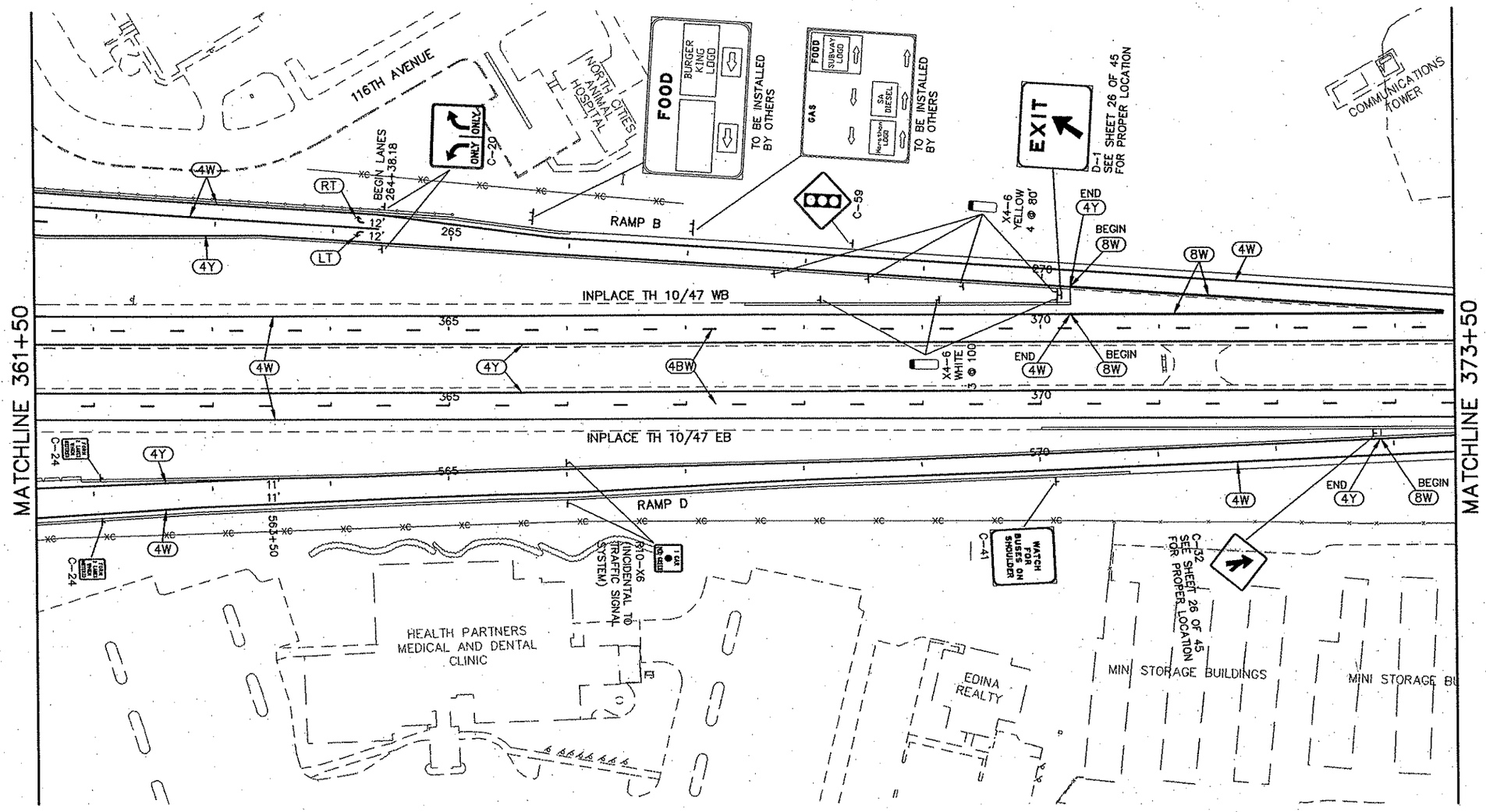
PLOT DATE: Jan 07 12:06pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042-SG-3.dwg

Xref'd Drawings
f--keel--sig.
sn--psg
2SIGNOTES
ISN--PCO
ISN--ETO
ISN--ALI
F--DWG--BDR
x34bdr

NOTES:

1) ALL SIGNS SHALL BE FURNISHED & INSTALLED UNLESS OTHERWISE NOTED.

2) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.



PERMANENT PAVEMENT MARKING SYMBOLS

- (RT) PAVEMENT MESSAGE, RT.
- (LT) PAVEMENT MESSAGE, LT.
- (T/RT) PAVEMENT MESSAGE, THRU/RT.
- (4W) 4" SOLID LINE WHITE
- (4BW) 4" BROKEN LINE WHITE (10' STRIPE, 40' GAP)
- (4Y) 4" SOLID LINE YELLOW
- (4DY) 4" DOUBLE SOLID LINE YELLOW
- (8DW) INTERSECTION GUIDE MARKS: 8" DOTTED LINE WHITE (3' STRIPE, 12' GAP)
- (8W) 8" SOLID LINE WHITE (CHANNELIZING)
- (24W) 24" STOP LINE WHITE
- (24Y) PAINTED ISLAND: 24" SOLID LINE YELLOW (20' SPACING @ 45°)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: IKR
CHKED. BY: BWR | DWG. NAME: SG-HWY05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

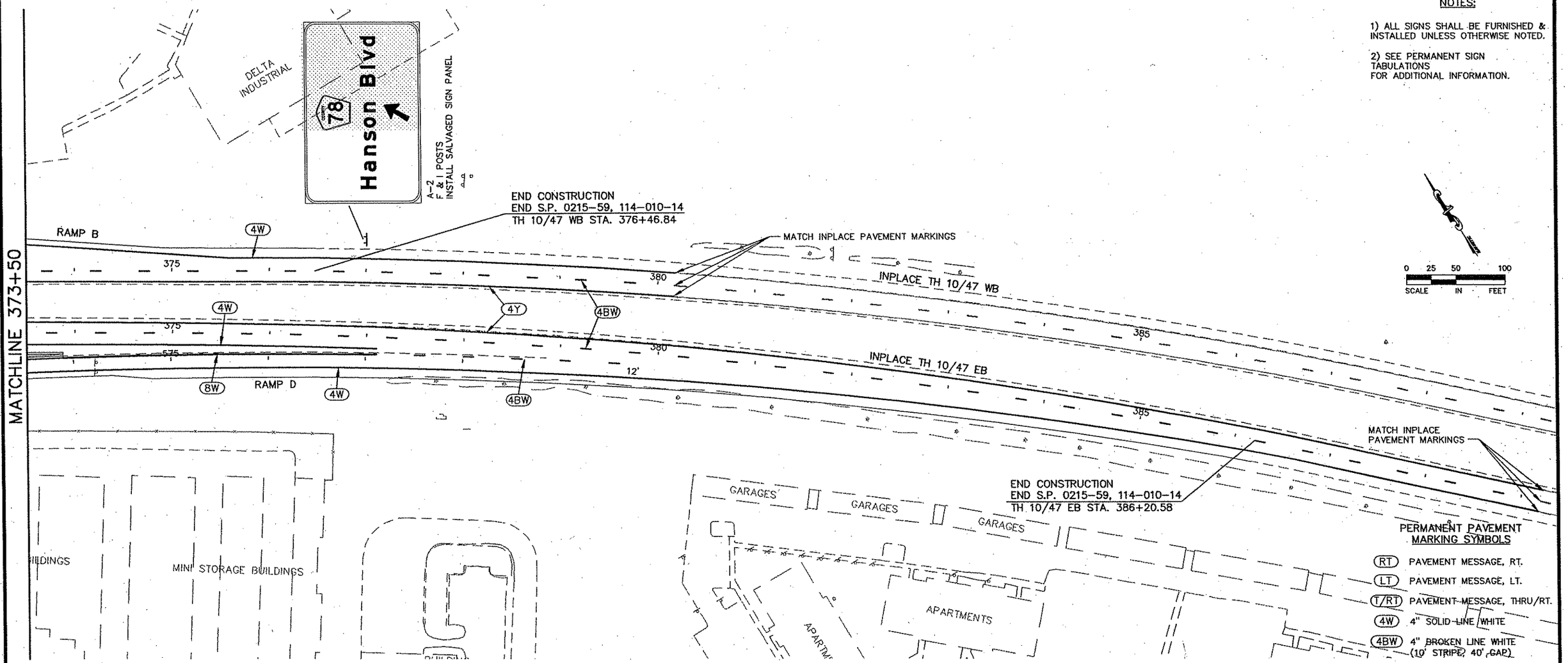
SIGNING AND STRIPING PLAN

HIGHWAY 10/47 AND RAMPS A-D
STATION 361+50.00 TO STATION 373+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 408 / 681

PLOT DATE: Jan 07 12:06pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042-SG



NOTES:

1) ALL SIGNS SHALL BE FURNISHED & INSTALLED UNLESS OTHERWISE NOTED.

2) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.

PERMANENT PAVEMENT MARKING SYMBOLS

- (RT) PAVEMENT MESSAGE, RT.
- (LT) PAVEMENT MESSAGE, LT.
- (T/RT) PAVEMENT MESSAGE, THRU/RT.
- (4W) 4" SOLID LINE WHITE
- (4BW) 4" BROKEN LINE WHITE (10' STRIPE, 40' GAP)
- (4Y) 4" SOLID LINE YELLOW
- (4DY) 4" DOUBLE SOLID LINE YELLOW
- (8DW) INTERSECTION GUIDE MARKS: 8" DOTTED LINE WHITE (3' STRIPE, 12' GAP)
- (8W) 8" SOLID LINE WHITE (CHANNELIZING)
- (24W) 24" STOP LINE WHITE
- (24Y) PAINTED ISLAND: 24" SOLID LINE YELLOW (20' SPACING @ 45°)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR
DESIGN BY: IKR
CHKED. BY: BWR
DWG. NAME: SG-HWY06
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

SIGNING AND STRIPING PLAN

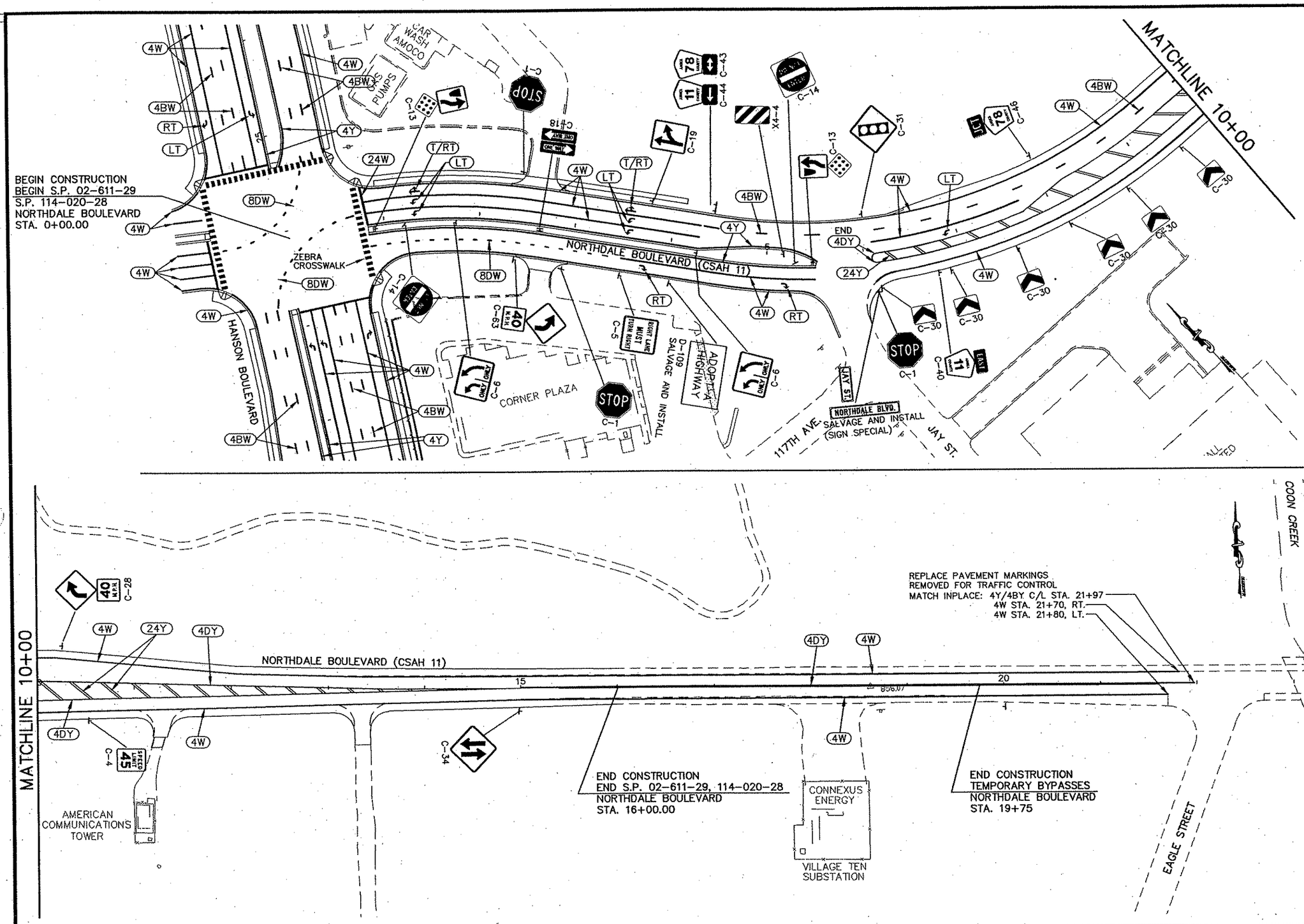
HIGHWAY 10/47 AND RAMPS A-D
STATION 373+50.00 TO STATION 386+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 409 / 681

PLOT DATE: Jan 07 12:06pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042-SG...dwg

Xref'd Drawings
rl-keel-sig
ISN-ETO
2SGNOTES
sn-psg
ISN-PCD
ISN-ALI
F-DWG-BDR
x34bdr



NOTES:

1) ALL SIGNS SHALL BE FURNISHED & INSTALLED UNLESS OTHERWISE NOTED.

2) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.

0 25 50 100
SCALE IN FEET

PERMANENT PAVEMENT MARKING SYMBOLS

- (RT) PAVEMENT MESSAGE, RT.
- (LT) PAVEMENT MESSAGE, LT.
- (T/RT) PAVEMENT MESSAGE, THRU/RT.
- (4W) 4" SOLID LINE WHITE
- (4BW) 4" BROKEN LINE WHITE (10' STRIPE, 40' GAP)
- (4Y) 4" SOLID LINE YELLOW
- (4DY) 4" DOUBLE SOLID LINE YELLOW
- (8DW) INTERSECTION GUIDE MARKS: 8" DOTTED LINE WHITE (3' STRIPE, 12' GAP)
- (8W) 8" SOLID LINE WHITE (CHANNELIZING)
- (24W) 24" STOP LINE WHITE
- (24Y) PAINTED ISLAND: 24" SOLID LINE YELLOW (20' SPACING @ 45°)

21 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: IKR
CHKD. BY: BWR | DWG. NAME: SG-NNDALE01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

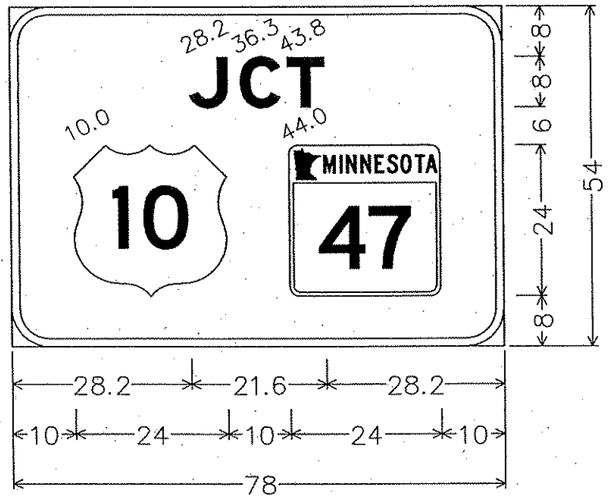
TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN
NORTHDALE BOULEVARD
STATION 0+00.00 TO STATION 21+80.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

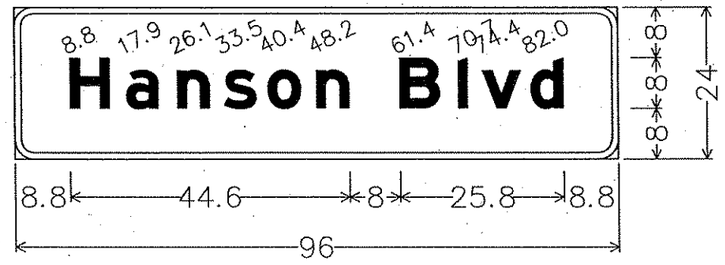
SHEET NO. 410 / 681

PLOT DATE: Jan 7 12:06pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042-SG-NNDALE01.dwg

Xref'd Drawings
-3
-2
rl-keel-sig
F-DWG-BDR
x34bdr



D–2;
6.0" Radius, 1.3" Border, White on Green;
[JCT] E Mod;



D–3;
3.0" Radius, 1.0" Border, White on Green;
[Hanson Blvd] E Mod;

NOTES:
1. CORNERS OF THE SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
2. SEE STANDARD SIGNS MANUAL FOR ARROW AND OVERLAY DETAILS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: BWR
CHKED. BY: BWR | DWG. NAME: 042SGDET1
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

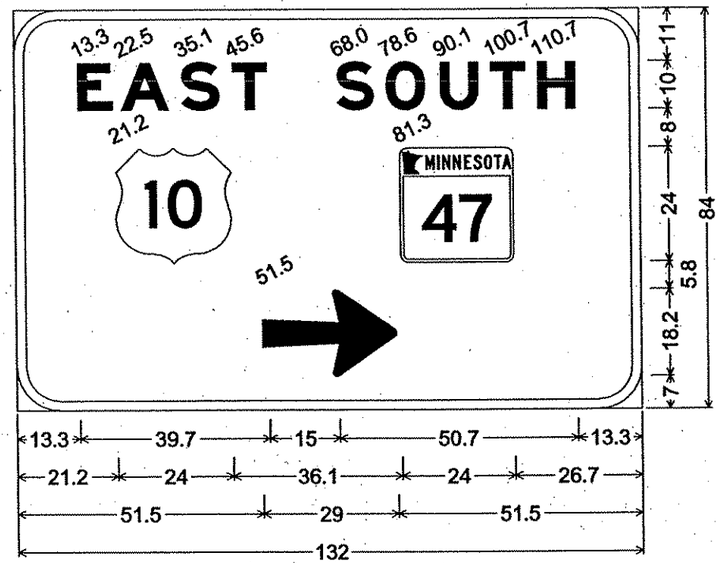
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN
SIGN PANELS TYPE D

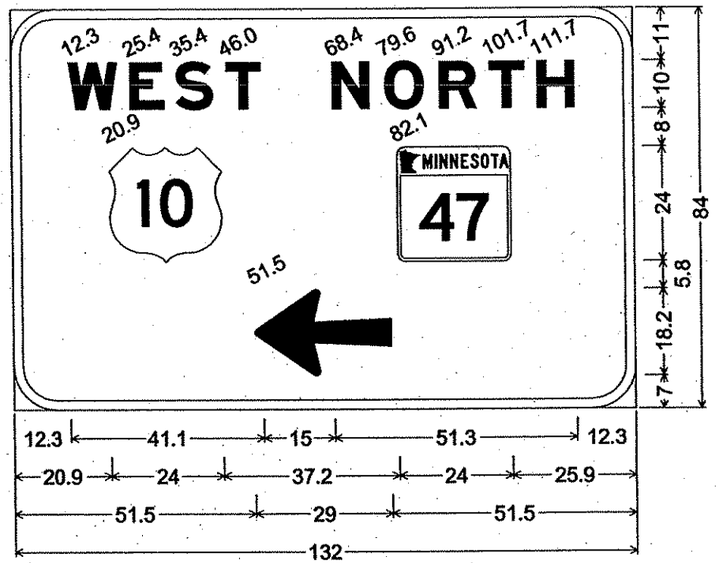
CITY PROJECT	01–31	S.P.	0215–59	SHEET NO. 411 / 681
S.P.	02–678–17	S.P.	02–611–29	
		S.P.	114–020–28	
		S.P.	114–010–14	

PLOT DATE: Jan 17 12:07pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042SGDET1

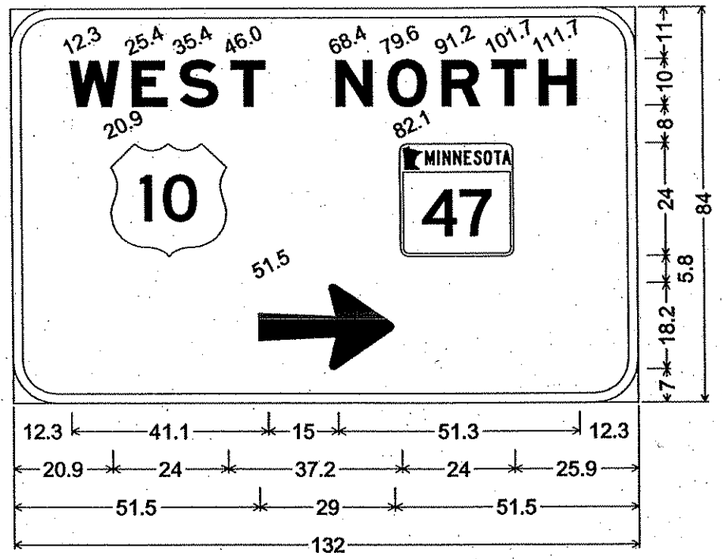
Xref'd Drawings
OH 87-10
OH 86-10
OH 85-10
OH 84-10
carl-keel-slg
DEF-DWG-BDR
12x34bdr



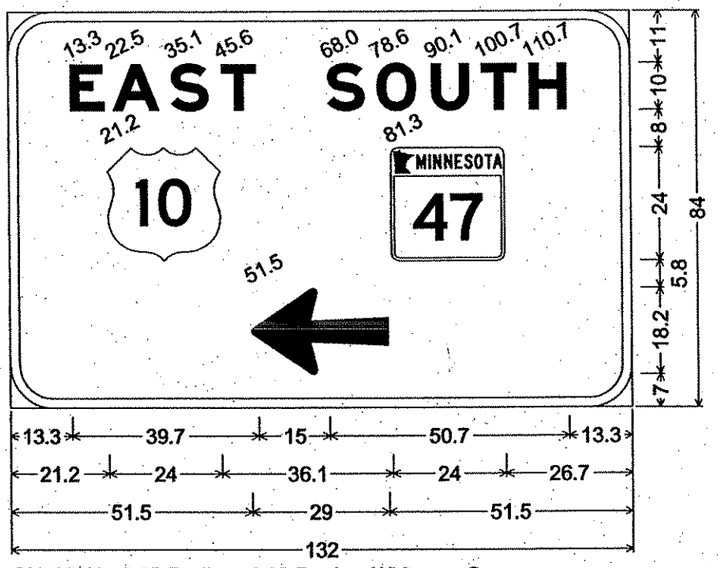
OH 84-10; 9.0" Radius, 2.0" Border, White on Green;
[EAST] E Mod; [SOUTH] E Mod; Arrow 16 - 29.0" 0°;



OH 85-10; 9.0" Radius, 2.0" Border, White on Green;
[WEST] E Mod; [NORTH] E Mod; Arrow 16 - 29.0" 180°;



OH 86-10; 9.0" Radius, 2.0" Border, White on Green;
[WEST] E Mod; [NORTH] E Mod; Arrow 16 - 29.0" 0°;



OH 87-10; 9.0" Radius, 2.0" Border, White on Green;
[EAST] E Mod; [SOUTH] E Mod; Arrow 16 - 29.0" 180°;

NOTES:
1. CORNERS OF THE SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
2. SEE STANDARD SIGNS MANUAL FOR ARROW AND OVERLAY DETAILS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: BWR
CHKED. BY: BWR | DWG. NAME: 042SGDET2
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

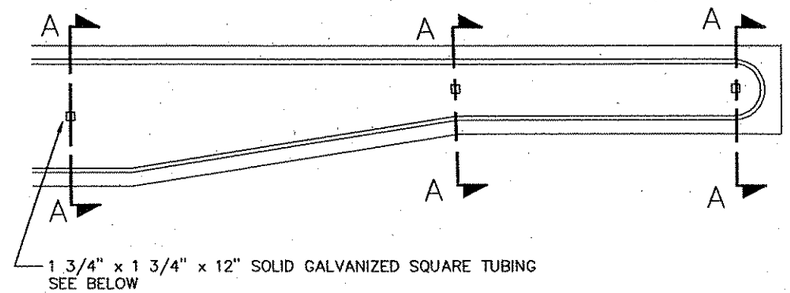
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN
SIGN PANELS TYPE OH

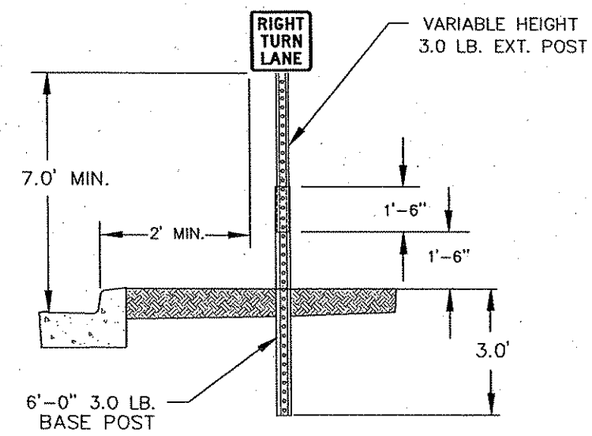
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 412 / 681

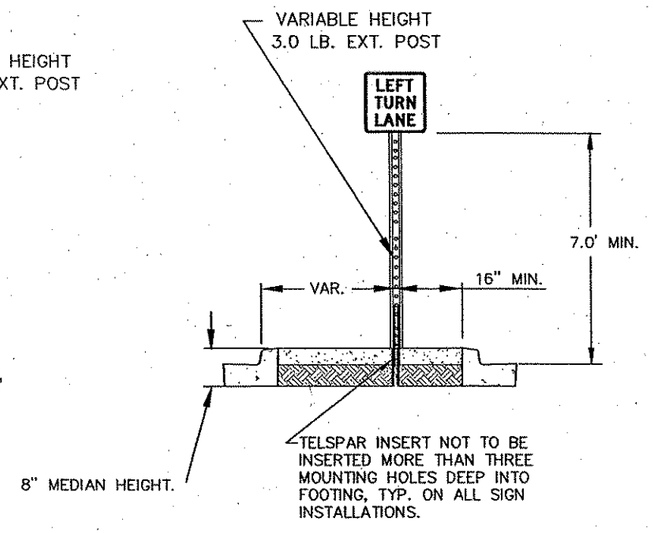
PLOT DATE: Jan 07 12:07pm DISK FILE NAME: (16:1) R:\33869\33889042\PLAN-SHT\SIGN-STRIPE\042SGDE

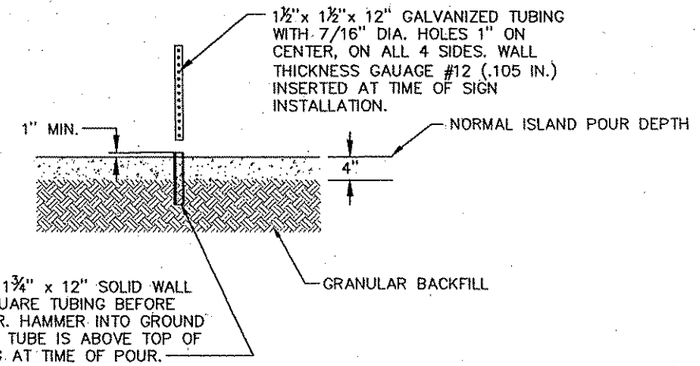


GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL





SECTION A - A

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: SWH | DESIGN BY: BJK
CHKED. BY: BJK | DWG. NAME: 042SGDET3
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

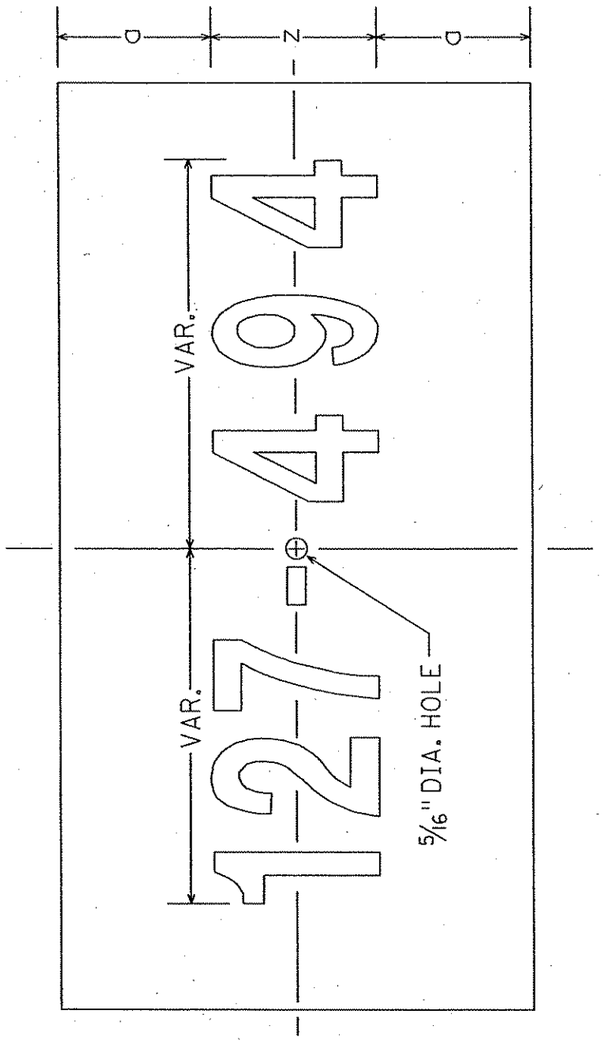
TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN

SIGN POST INSTALLATION DETAIL

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 413 / 681

PLOT DATE: Jan 08, 2007 12:07pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042SGDET3.dwg

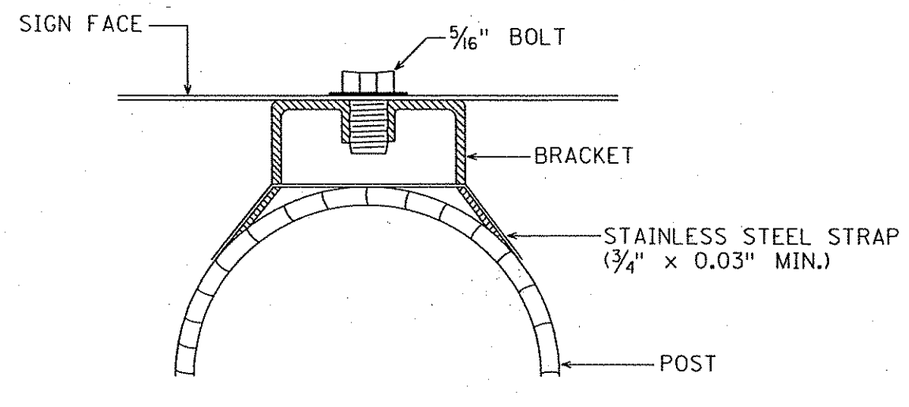


SIZE / DIMENSION	12×6
RADIUS	
MARGIN	
BORDER	2
a	
b	
c	
d	
e	
f	
g	
h	
i	
j	
k	
l	
m	
n	
o	
p	
q	
r	
s	
t	
u	
v	
w	
x	
y	
z	2-C
PUNCH CODE	

NOTES: 1) ALL DIMENSIONS AND SIZES SHOWN ARE IN INCHES.
2) USE APPROPRIATE NUMERALS.
3) PLATE MATERIAL - (MN/DOT 3352.2A1b).
4) GREEN BACKGROUND - (MN/DOT 3352.2A2b).
5) WHITE NUMERALS OR LETTERS - (MN/DOT 3352.2A2b).

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
STANDARD SIGN DRAWING

OH SIGN IDENTIFICATION PLATE



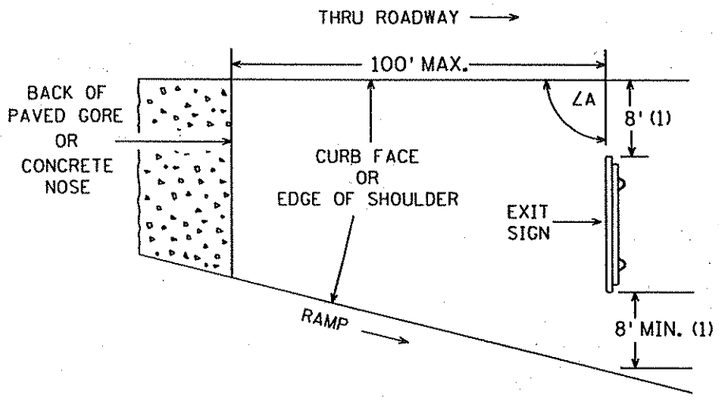
GALVANIZED OR STAINLESS STEEL BRACKET, BOLT AND WASHER.

STRAP MOUNTING DETAIL

STANDARD SIGN DRAWINGS

01/08/2007 11:19:07 AM R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\DGN\OHID 25 of 45.dgn
I.D. PLATE STR. (SHT.SIG) 11-01-01

GORE PLACEMENT

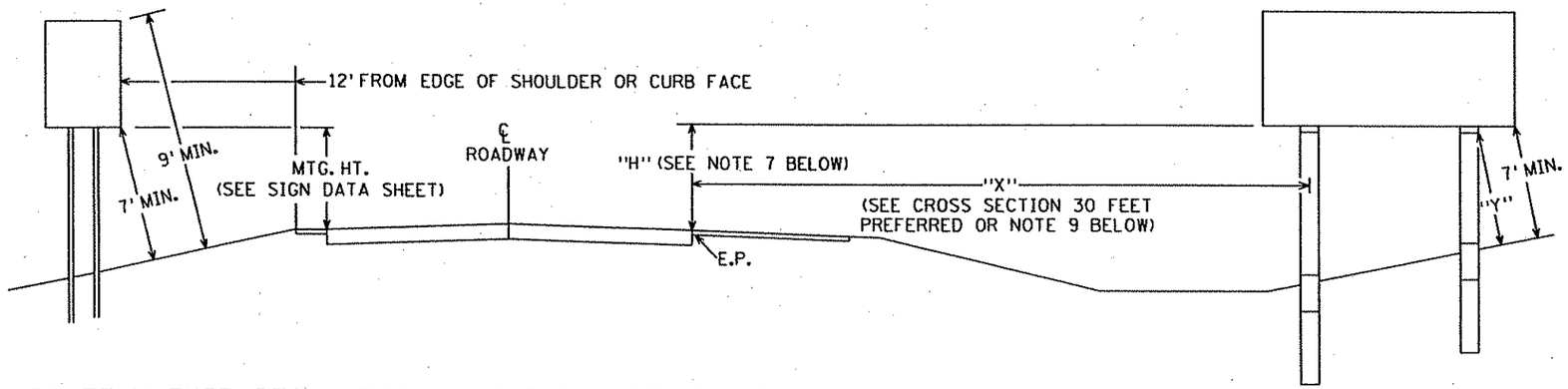


SPECIFIC NOTES:

(1) EXIT SIGNS
IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 100 FEET OF THE PAVED GORE, A 4 FOOT OFFSET IS ACCEPTABLE. IF THE 4 FOOT OFFSETS CANNOT BE ATTAINED WITHIN 100 FEET OF THE PAVED GORE, CONTACT THE OTSO SIGNING UNIT.

(2) MERGE SIGNS
IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 200 FEET OF THE PAVED GORE, A 4 FOOT OFFSET IS ACCEPTABLE. IF THE 4 FOOT OFFSETS CANNOT BE ATTAINED WITHIN 200 FEET OF THE PAVED GORE, CONTACT THE OTSO SIGNING UNIT.

ROADSIDE PLACEMENT



ROUTE MARKER, REGULATORY & WARNING SIGNS - TYPE C
MINOR GUIDE SIGNS - TYPE D

MAJOR GUIDE SIGN - TYPE A

NOTES:

1. IF A SECONDARY SIGN IS MOUNTED BELOW A MAJOR SIGN, THE MAJOR SIGN SHALL BE AT LEAST 8' ABOVE THE PAVEMENT EDGE AND THE SECONDARY SIGN AT LEAST 5'.
2. ALL ROUTE MARKERS, WARNING AND REGULATORY SIGNS SHALL BE AT LEAST 7' ABOVE PAVEMENT EDGE.
3. SIGN FACES SHALL BE VERTICAL.
4. OVERHEAD SIGNS SHALL BE POSITIONED AT RIGHT ANGLES TO THE THRU ROADWAY UNLESS OTHERWISE NOTED.
5. TO AVOID SPECULAR GLARE, ∠A SHALL BE APPROXIMATELY 93° FOR SIGNS LOCATED LESS THAN 30' FROM THE EDGE OF PAVEMENT AND APPROXIMATELY 92° FOR SIGNS LOCATED 30' OR MORE FROM EDGE OF PAVEMENT. THIS APPLIES TO SIGNS TYPE A, C, & D AND INCLUDES SIGNS IN THE GORE.
6. "Y" IS THE PERPENDICULAR DISTANCE FROM THE GROUND LINE TO THE FRICTION FUSE ON THE POST. THIS DISTANCE SHALL BE AT LEAST 7'.
7. WHERE "X" IS LESS THAN 30', "H" SHALL BE 7' ±6". WHERE "X" IS 30' OR GREATER, MINIMUM AND PREFERRED "H" IS 5'.
8. LATERAL CLEARANCES GIVEN APPLY TO RIGHT AND OR LEFT SIDE INSTALLATION.
9. WHEN A TYPE A SIGN IS INSTALLED DIRECTLY BEHIND TRAFFIC BARRIER, THE LEFT EDGE OF THE SIGN PANEL SHALL BE LOCATED A MINIMUM OF 4 FEET BEHIND THE FACE OF THE TRAFFIC BARRIER.

SIGN PLACEMENT

REVISED 3-14-05

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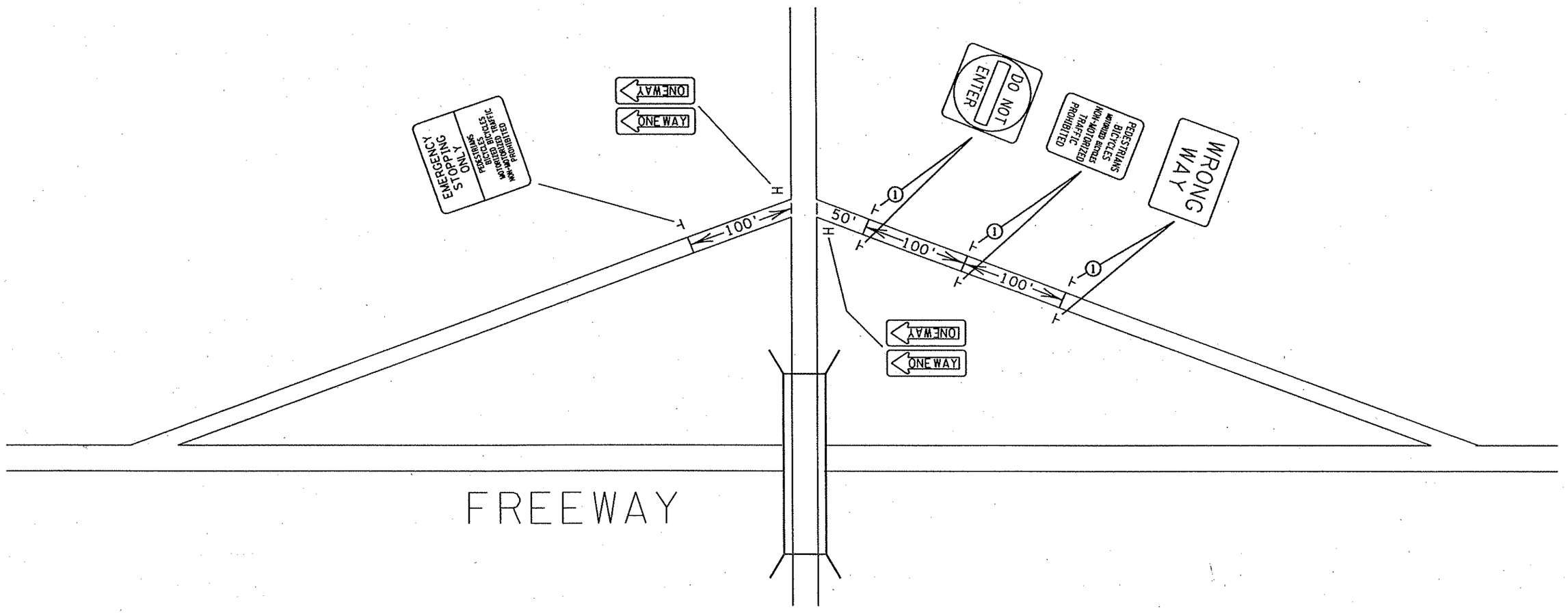
SIGN PLACEMENT (SHT.587 11-01-01



(1) ADDITIONAL SIGN REQUIRED WHEN RAMP IS 3 LANES OR WIDER

27 OF 45

STANDARD SIGN PLACEMENT

REGULATORY, WRONG WAY, AND EXCLUSION SIGNS ON FREEWAY DIAMOND INTERCHANGE RAMPS

State Proj. No. 0215-59 (T.H. 10) Sheet No. 416 of 681 Sheets

REVISED 4-7-06

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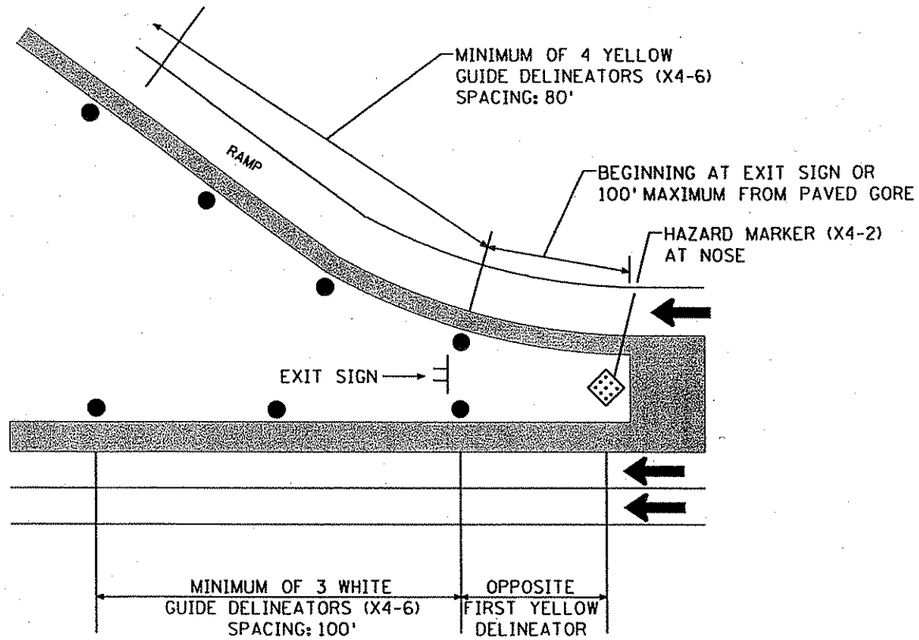
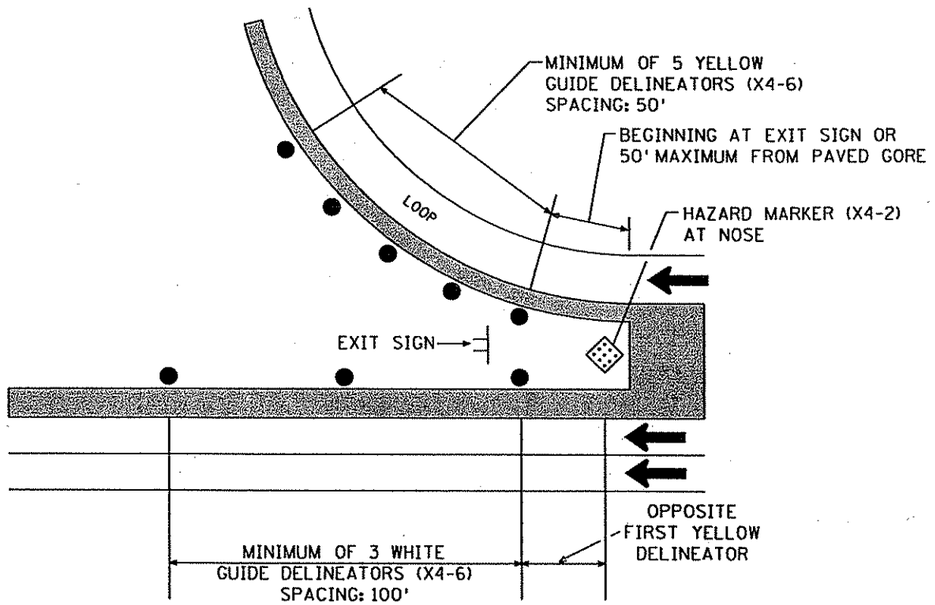
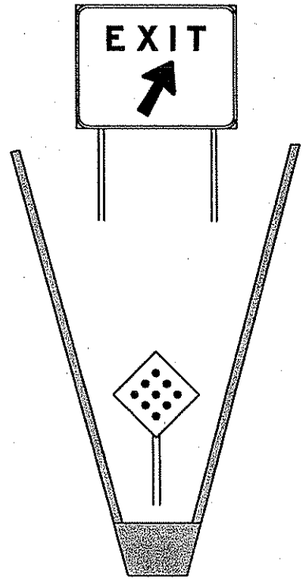
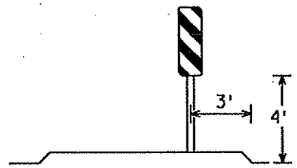


PLAN A
RAMP DELINEATION

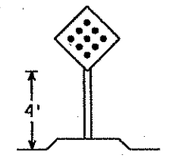


PLAN B
LOOP DELINEATION

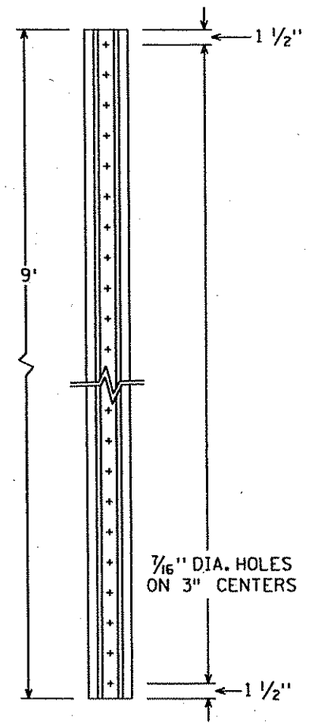




RAISED ISLAND
CLEARANCE MARKER
(X4-4)

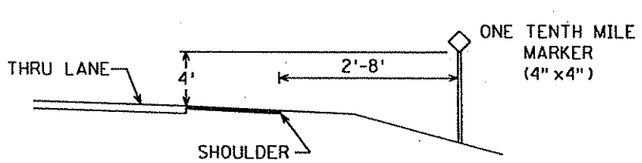


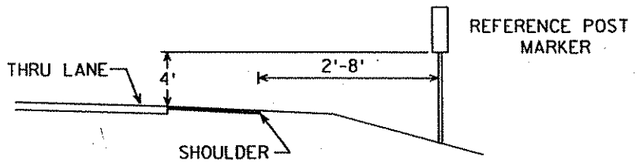
RAISED ISLAND
HAZARD MARKER
(X4-2)

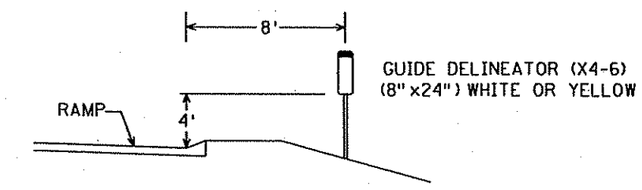


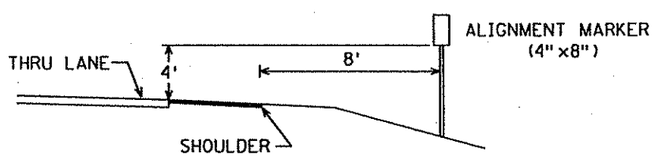
MN/DOT 3401
NORMAL WEIGHT= 2 LB./FT.

DELINEATOR POST









TYPICAL PLACEMENT

DELINEATORS AND MARKERS

REVISED 4-14-04

State Proj. No. 0215-59 (T.H. 10) Sheet No. 417 of 681 Sheets

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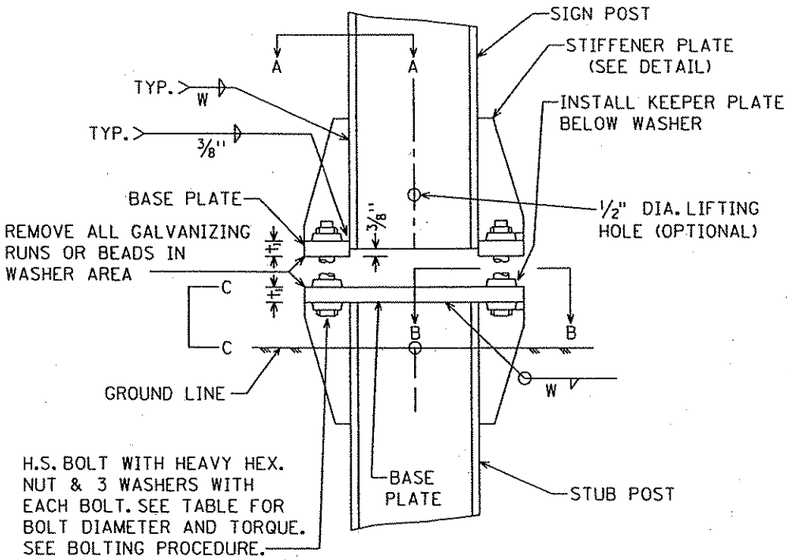
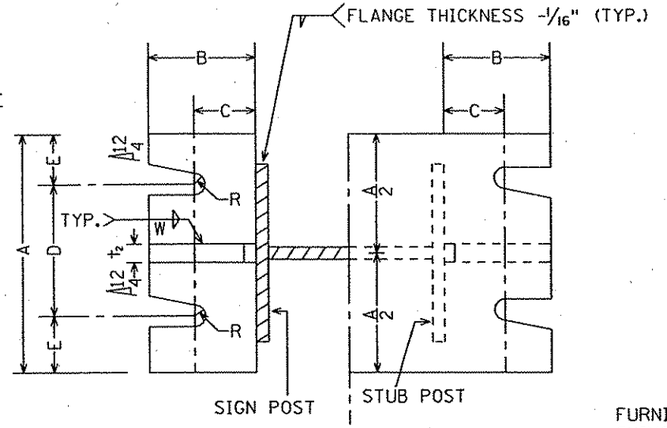


SIGN POST AND STUB POST ELEVATION



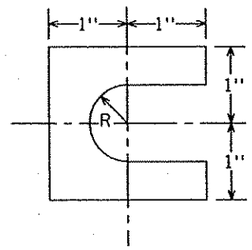
SECTION A-A SECTION B-B

(SEE TABLE FOR DIMENSIONS)

SECTIONS SHOWN ARE FOR INSTALLATIONS ON RIGHT SHOULDER AND IN GORE. PLATE SLOT BEVELS ARE OPPOSITE HAND FROM THAT SHOWN FOR INSTALLATIONS ON LEFT SHOULDER.

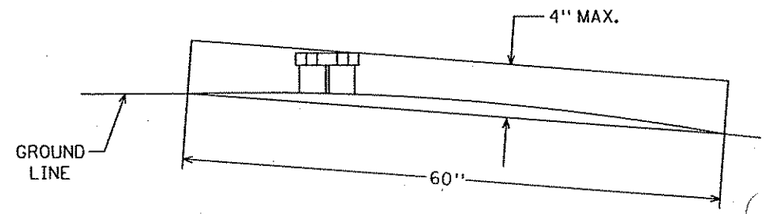
BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND WITH ONE OF THE FLAT WASHERS ON EACH BOLT BETWEEN PLATES.
2. SHIM AS REQUIRED TO PLUMB POST.
3. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS AND SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. (SEE TABLE)
4. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.



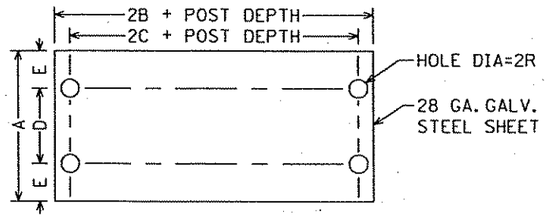
FURNISH TWO-.012"± THICK AND TWO-.032"± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M. B36.

SHIM DETAIL

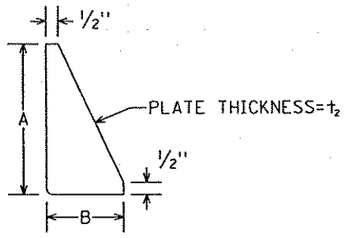


VIEW C-C

MAXIMUM PROJECTION OF STUB POST SHALL NOT EXTEND BEYOND A LINE, ABOVE AND 4" PARALLEL TO ANY CHORD, WHICH IS PERPENDICULAR TO (OR ALIGNED RADIALLY TO) THE CENTERLINE OF THE HIGHWAY AND HAS ITS (THE CHORD'S) END POINTS ON THE GROUND SURFACE ON OPPOSITE SIDES OF THE STUB POST.

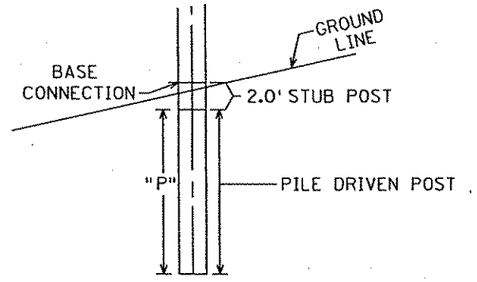


KEEPER PLATE



STIFFENER PLATE DETAIL

(SEE TABLE FOR DIMENSIONS)



H-PILE FOOTING

DIMENSION / POST SIZE	BASE CONNECTION DATA: BOLT SIZE AND TORQUE	A	B	C	D	E	t_1	t_2	W	R	FUSE AND HINGE PLATE DATA: G	H	J	K	L	M	d_1	d_2	t_3	BOLT DIA.	FOOTING DATA: STUB POST LENGTH (1)	H PILE POST "P" (MIN. LENGTH)
W4X13	3/4" DIA. x 3-1/2" TORQUE=600"#	6"	2 1/2"	1 1/2"	3 1/2"	1 1/4"	1"	1/2"	1/4"	13/32"	2"	1 1/4"	4"	2 1/4"	7/8"	1"	11/16"	3/4"	3/8"	5/8"	2'	12'
W5X16											2 1/2"	1 1/4"	5"	2 3/4"	1 1/8"	1 1/8"	13/16"	7/8"	3/8"	3/4"	2'	12'
W6X20	7/8" DIA. x 4-1/4" TORQUE=800"#	8"	3"	1 3/4"	4"	2"	1 1/4"	1/2"	1/4"	15/32"	2 1/2"	1 1/4"	6"	3 1/2"	1 1/4"	1 3/8"	13/16"	1 1/8"	3/8"	3/4"	2'	12'
W8X24											2 1/2"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	1 1/2"	15/16"	1 1/4"	1/2"	7/8"	2'	12'
W8X28	1" DIA. x 5" TORQUE=1000"#	8"	3"	2"	4"	2"	1 1/2"	3/4"	5/16"	17/32"	2 1/2"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	1 5/8"	1 1/16"	1 1/8"	1/2"	1"	2'	12'
W8X31	1-1/8" DIA. x 5" TORQUE=1200"#	9"	3 1/2"	2"	5"	2"	1 1/2"	3/4"	5/16"	19/32"	3"	1 3/4"	8"	5 1/2"	1 1/4"	2"	1 1/16"	1 1/2"	1/2"	1"	2'	12'
(2) W10X39											3"	1 3/4"	8"	5 1/2"	1 1/4"	1 7/8"	1 3/16"	1 3/8"	1/2"	1 1/8"	2'	12'

SPECIFIC NOTES:

(1) MEASURED FROM TOP OF BASE PLATE

(2) OLD BEAM DEPTH = 10". NEW REVISED BEAM DEPTH = 9-7/8". KEEPER PLATES MUST BE FABRICATED ACCORDINGLY

TYPE A SIGN STRUCTURAL DETAIL

H-PILE FOOTING

SHEET 1 OF 2

Revised 9-10-01

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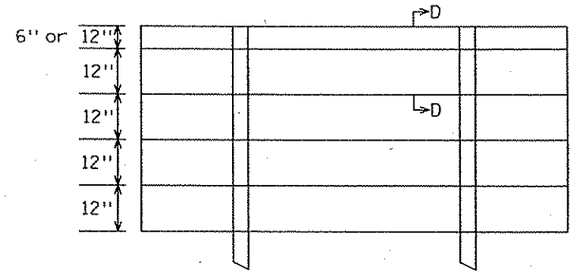
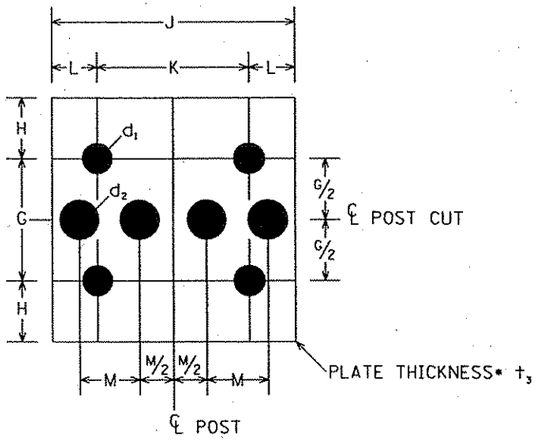
A SIGN STR. (SHT.61a) 11-01-01

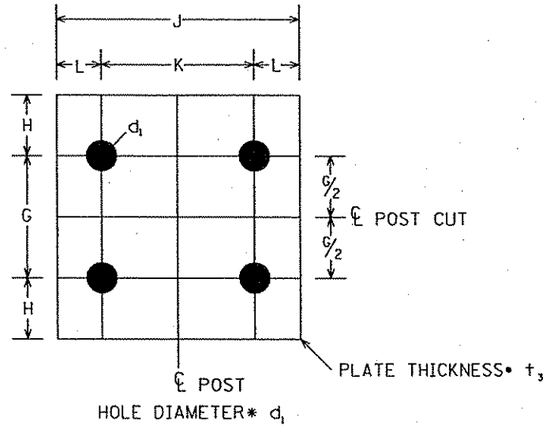


TYPICAL PANEL MOUNTING



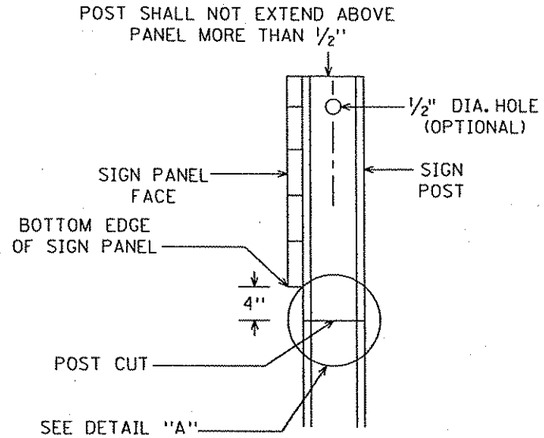
FRICTION FUSE PLATE DETAIL

(SEE TABLE ON SHEET 1 OF 2 FOR DIMENSIONS)

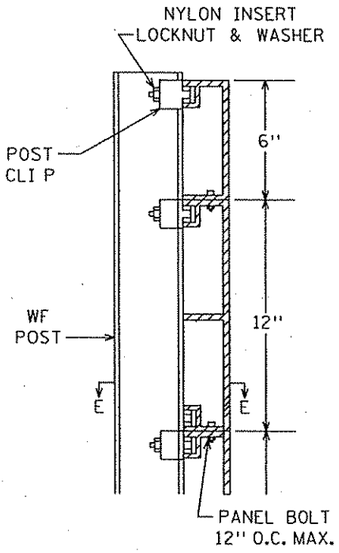


HINGE PLATE DETAIL

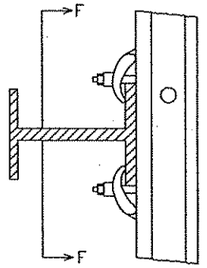
(SEE TABLE ON SHEET 1 OF 2 FOR DIMENSIONS)



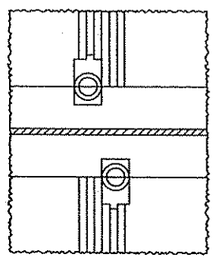
FRICTION FUSE SIDE VIEW



SECTION D-D

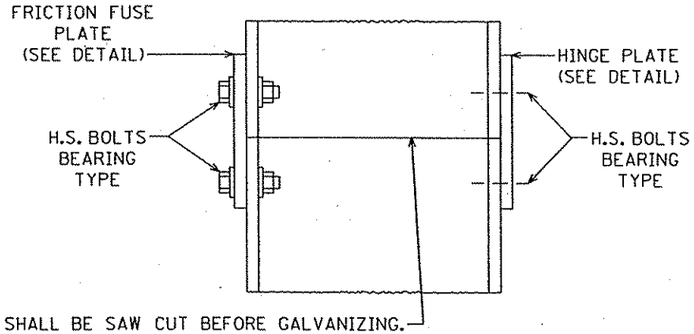


SECTION E-E



NOTE: POST CLIPS SHALL BE INSTALLED ON BOTH SIDES OF EACH POST AT EACH PANEL JOINT AS INDICATED.

SECTION F-F



DETAIL "A" FRICTION FUSE

CONTRACTOR NOTE: ALL FRICTION FUSE BOLTS SHALL BE TORQUE WRENCH TIGHTENED IN THE FIELD IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE. NUTS SHALL HAVE BEEN RETAPPED AND BOLT THREADS SHALL HAVE BEEN CLEANED WITH A 1/64" OVERSIZED RETHREADING DIE AFTER GALVANIZING. BEFORE TIGHTENING MAY BEGIN, THE TORQUE WRENCH SHALL BE CALIBRATED WITH A BOLT-TENSION-CALIBRATOR USING TYPICAL BOLT-NUT-WASHER ASSEMBLIES OF EACH SIZE AND LOT TO BE USED SO AS TO SHOW THE TORQUE NECESSARY TO OBTAIN THE FOLLOWING MINIMUM RESIDUAL TENSION IN EACH BOLT.

BOLT SIZE	MIN. RESIDUAL, BOLT TENSION
½" DIA.	12,050#
⅝" DIA.	19,200#
¾" DIA.	28,400#
⅞" DIA.	39,250#
1" DIA.	51,500#
1-⅛" DIA.	56,450#

GENERAL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO MN/DOT 3308. REINFORCING BARS SHALL CONFORM TO MN/DOT 3301. SPIRALS SHALL CONFORM TO MN/DOT 3305-NO SPLICES. HIGH STRENGTH BOLTS SHALL CONFORM TO A.S.T.M.-A325.
2. FORMS WILL BE REQUIRED FOR THE EXPOSED VERTICAL SURFACES OF THE FOOTINGS.
3. REFER TO "SIGN DATA" SHEET FOR SPECIFIC DATA ON EACH INDIVIDUAL SIGN INSTALLATION.
4. FRICTION FUSE PLATE SHALL BE INSTALLED ON SIDE OF POST FACING TRAFFIC.
5. ALL POST CUTS SHALL BE SAW CUTS. PLATES MAY BE SHEARED OR FLAME CUT USING A MECHANICALLY GUIDED CUTTING TORCH. EDGE PREPARATION SHALL BE IN ACCORDANCE WITH MN/DOT 2471.3C4 AND MN/DOT 2471.3d4.

TYPE A SIGN STRUCTURAL DETAILS

SHEET 2 OF 2

Revised 10-14-98

State Proj. No. 0215-59 (T.H. 10) Sheet No. 419 of 681 Sheets

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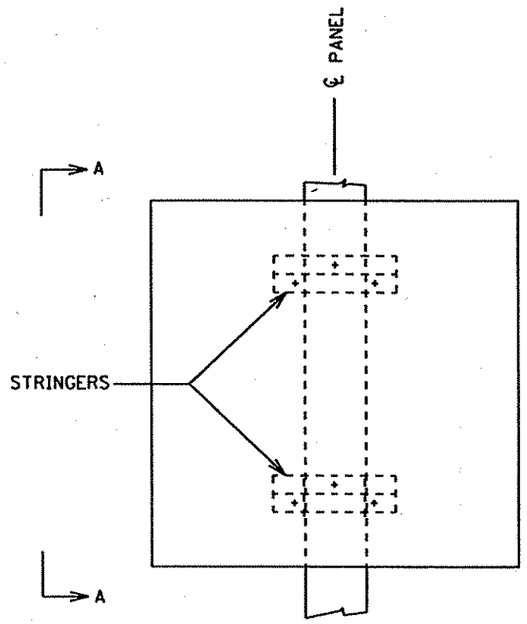
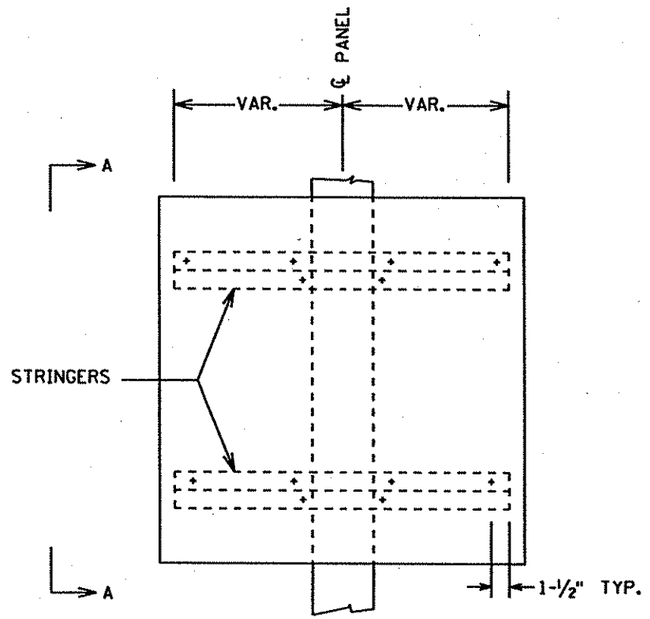
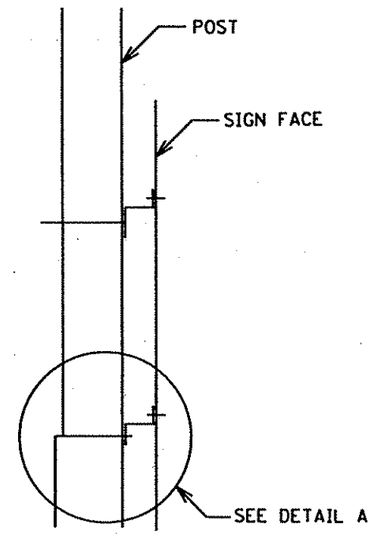


TYPE "C" SIGNS WITH SINGLE POST PUNCHING

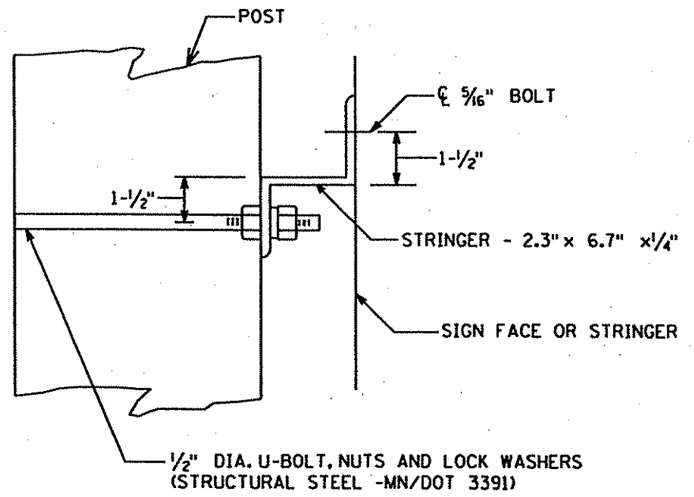


TYPE "C" SIGNS WITH 2-POST PUNCHING



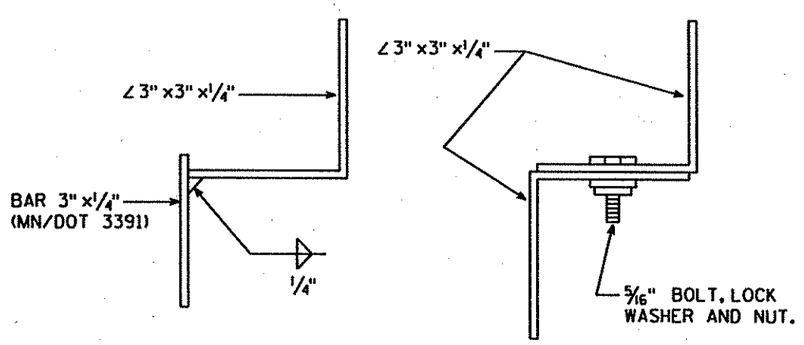
VIEW A-A

ELEVATION



DETAIL A

ELEVATION



DETAIL A STRINGER ALTERNATES

NOTES:
1. FOR DETAILS AND NOTES NOT SHOWN SEE "C" & "D" SIGN DETAILS.
2. FOR BACK TO BACK MOUNTINGS, ROTATE STRINGERS FOR ONE PANEL 180° FROM WHAT IS SHOWN SUCH THAT PANELS CAN BE MOUNTED AT SAME ELEVATION.
3. DETAIL A STRINGER MAY BE ONE OF THE THREE DESIGNS DETAILED OR AN APPROVED EQUAL. STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394. FASTENERS SHALL BE IN ACCORDANCE WITH MN/DOT 3391.2B AND SHALL BE GALVANIZED EITHER BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A153, OR BY THE MECHANICAL PROCESS IN ACCORDANCE WITH ASTM B695, CLASS 50 OR GREATER.

TYPE C SIGNS MOUNTED ON O-POSTS, OH SIGN POSTS OR SIGNAL STANDARDS

Revised 3-13-00

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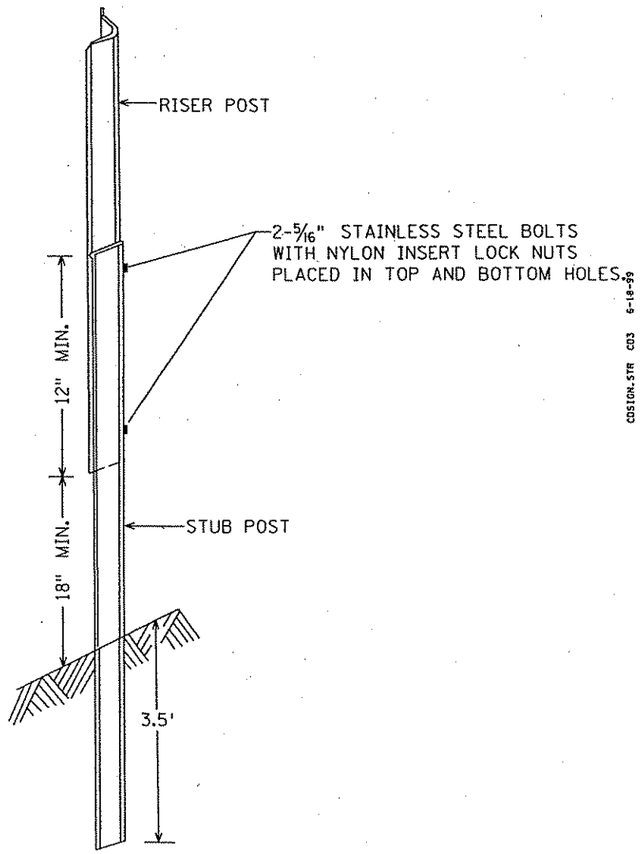
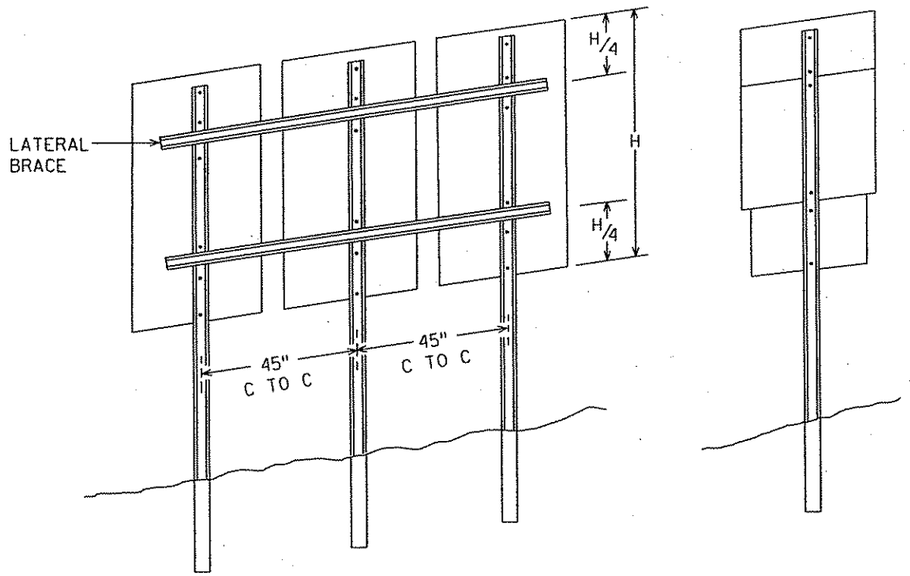
CSIGNL.STR C1 2-4-00

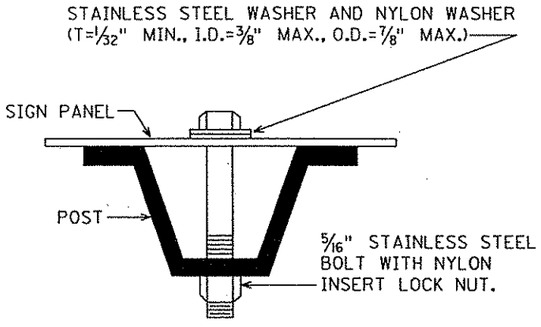
TYPE "C" & "D" POST



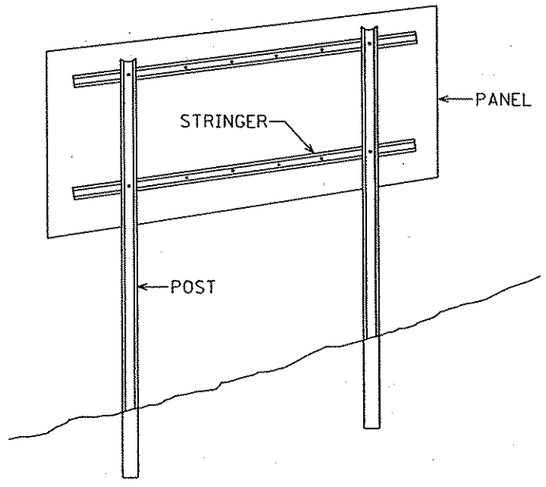
"U POST" SPLICE



TYPICAL TYPE "C" INSTALLATIONS



"U POST" MOUNTING
TYPE "C" SIGNS



TYPICAL TYPE "D" INSTALLATION

NOTES:

1. USE 3# STUB POSTS, RISER POSTS, STRINGERS, KNEE BRACES, LATERAL BRACES AND KNEE BRACE STUB POSTS. ALL SHALL CONFORM TO MN/DOT 3401.
2. FOR TYPE "D" SIGN POSTS LENGTHS AND SPACINGS, SEE SIGN DATA SHEET.
3. TYPE "D" SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH TYPE "D" STRINGER AND PANEL-JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
4. MOUNTING (PUNCHING CODE) FOR TYPE "C" SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
5. ALL RISER (VERTICAL) "U POSTS" SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.
6. USE STAINLESS STEEL 5/16" BOLTS, WASHERS, AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
7. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
8. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 3 1/2'.
9. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394.
10. COLLARS SHALL BE USED TO SHIM OVERLAYS AND DEMOUNTABLE LEGEND AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MN/DOT 3352.2A5.
11. 2 AND 3 POST TYPE "C" SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60" OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
12. WHERE 2 OR MORE SINGLE POST SIGNS (TYPE "C") ARE MOUNTED SIDE BY SIDE, THEY SHALL BE REINFORCED LATERALLY BY AT LEAST 2 POST SECTIONS, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN SKETCH.

TYPE C & D SIGN
STRUCTURAL DETAILS

Sheet 1 of 3

Revised 7-25-01

State Proj. No. 0215-59 (T.H. 10) Sheet No. 421 of 681 Sheets

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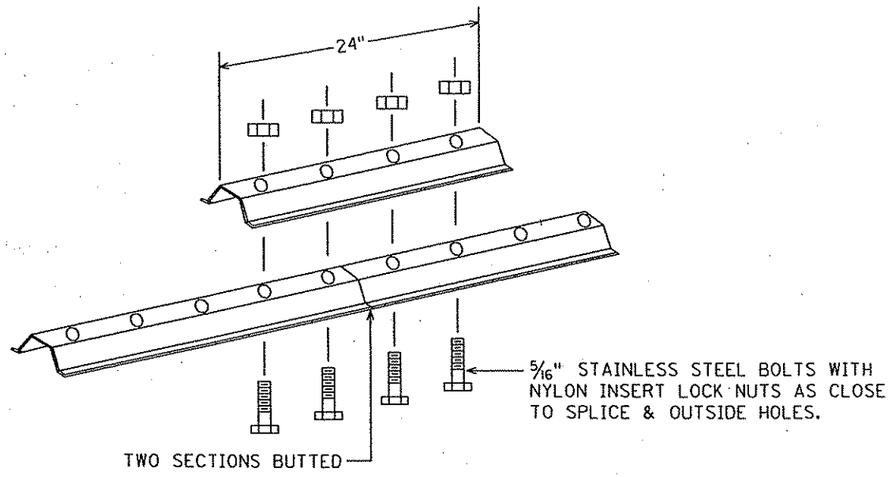
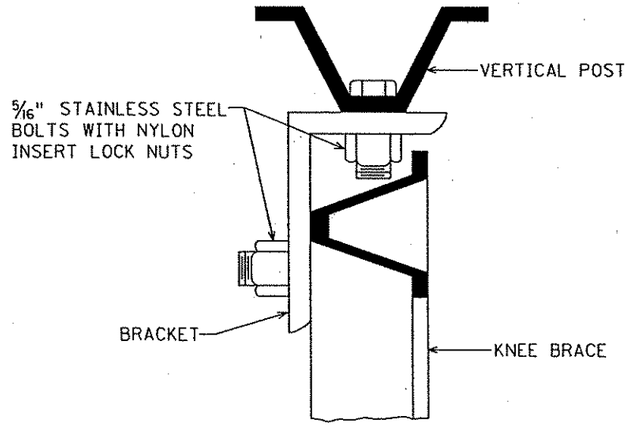
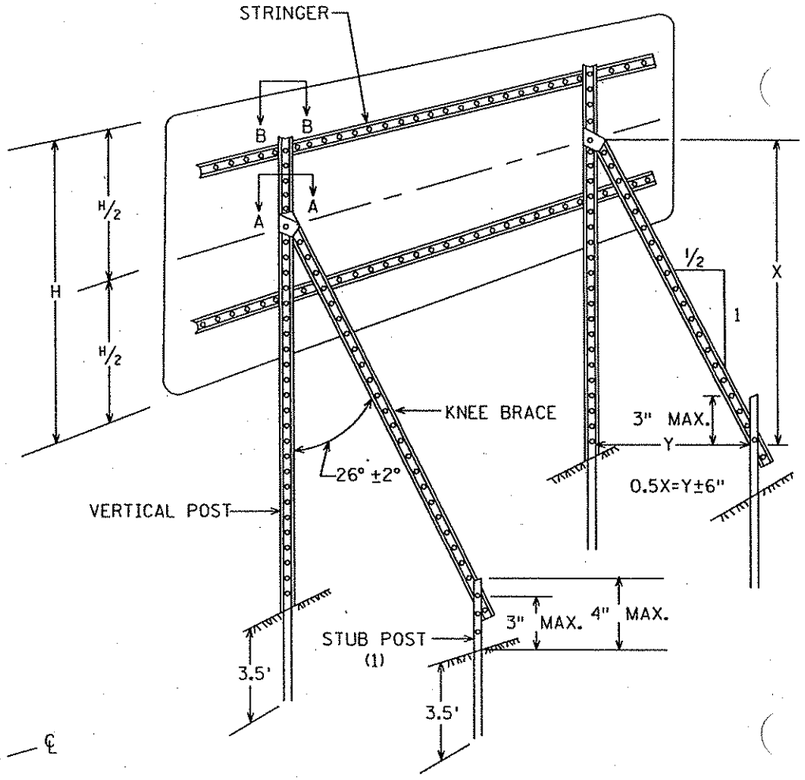
CDSIGN.STR C03 6-18-99



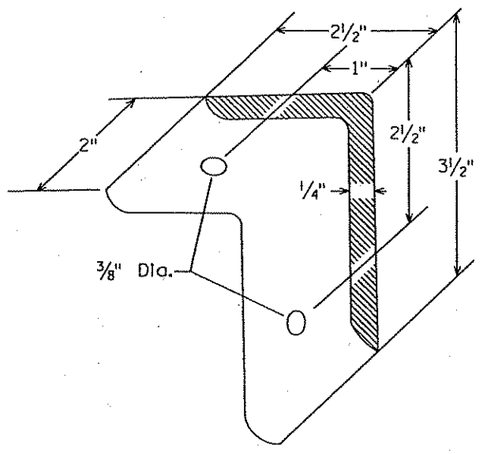
LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

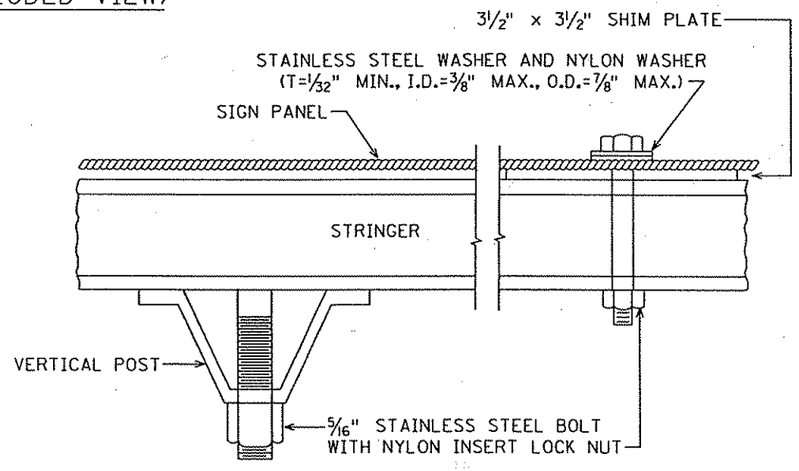


TYPICAL "A-FRAME" INSTALLATION TYPE "D" SIGNS

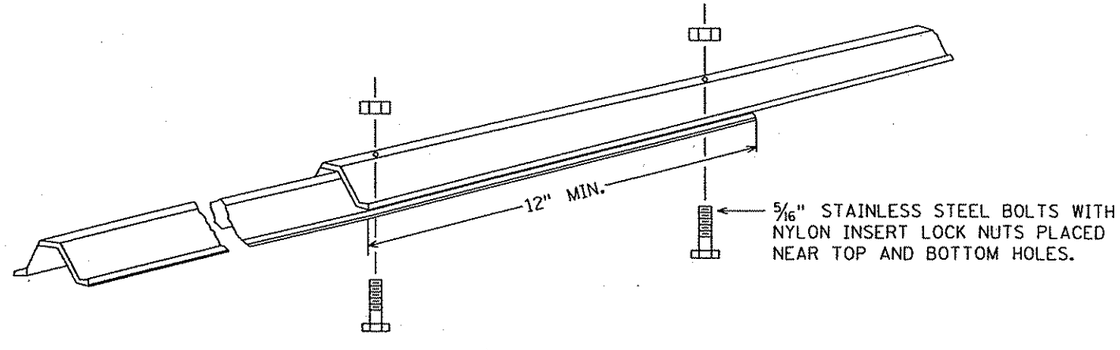


A-FRAME BRACKET

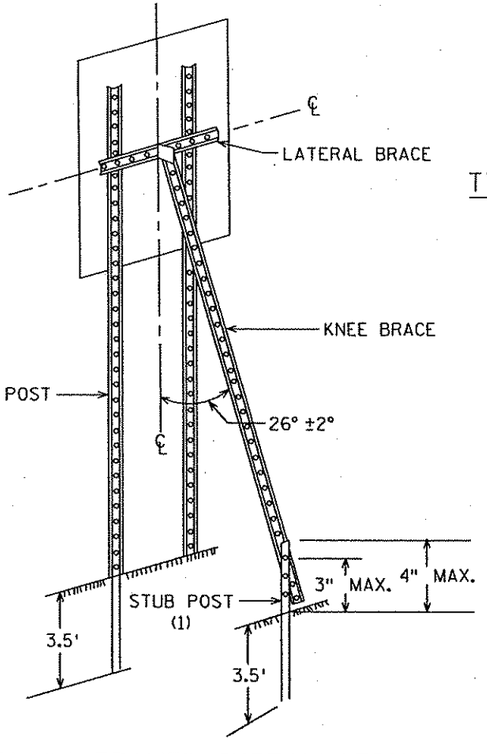
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



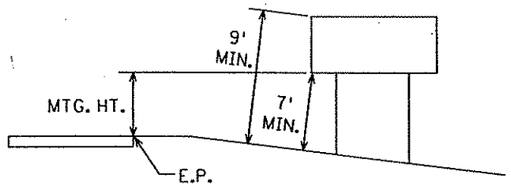
SECTION B-B



KNEE BRACE SPLICE



TYPICAL "A-FRAME" INSTALLATION TYPE "C" SIGNS



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY RELATIVE TO VERTICAL POST.

TYPE C & D SIGN STRUCTURAL DETAILS

Sheet 2 of 3

Revised 6-18-99

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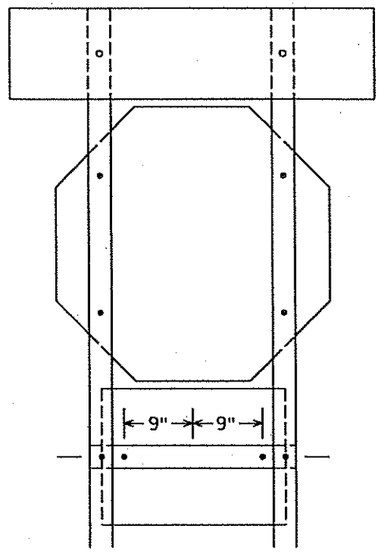
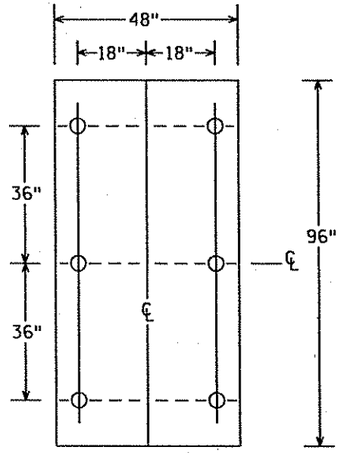
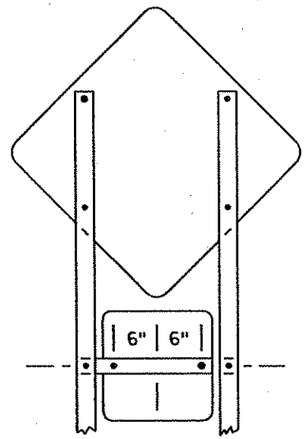
CDSIGN.STR C02 6-18-99



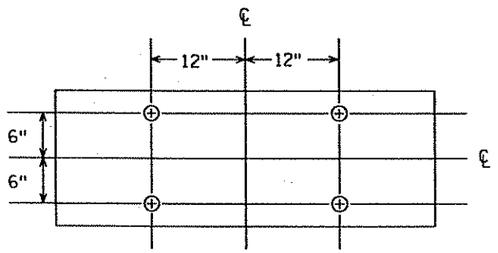
R6-1, R1-1 & (R6-3 OR R6-3a)
MOUNTING



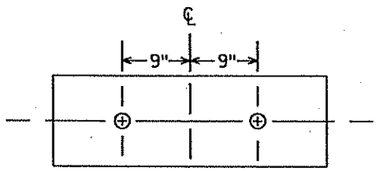
PUNCHING FOR R2-4b
SPEED LIMIT



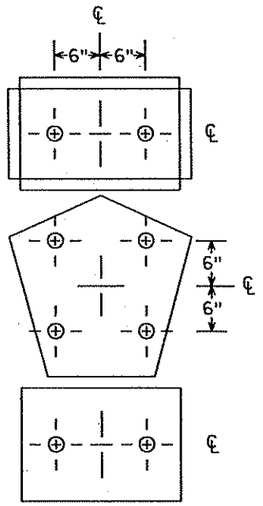
(W1-1, W1-2, W1-3, W1-4 OR W1-5) & W13-1
MOUNTING



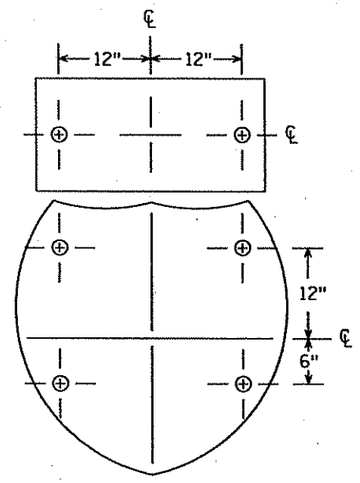
PUNCHING FOR R6-1(48"x18")



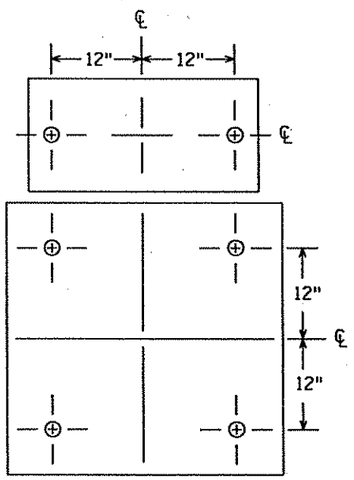
PUNCHING FOR R6-1(36"x12")



M2-1A [21"x15"] OR
(M3-1A, M3-2A, M3-3A OR M3-4A) [24"x12"] AND
M1-6 [24"x24"] AND
(M5-1A, M5-2A, M6-1A, M6-2A, M6-3A M6-4A, M6-5A OR M6-6A) [21"x15"]
PUNCHING



(M3-1A, M3-2A, M3-3A OR M3-4A) [30"x15"] AND
M1-1 [45"x36" OR 36"x36"]
PUNCHING



(M3-1, M3-1A, M3-2, M3-2A, M3-3, M3-3A M3-4 OR
M3-4A) [30"x15"] AND (M1-4 OR M1-5A) [36"x36"]
PUNCHING

TYPE C & D SIGN

STRUCTURAL DETAILS

Sheet 3 of 3

34 OF 45

Revised 4-25-05

State Proj. No. 0215-59 (T.H. 10) Sheet No. 423 of 681 Sheets

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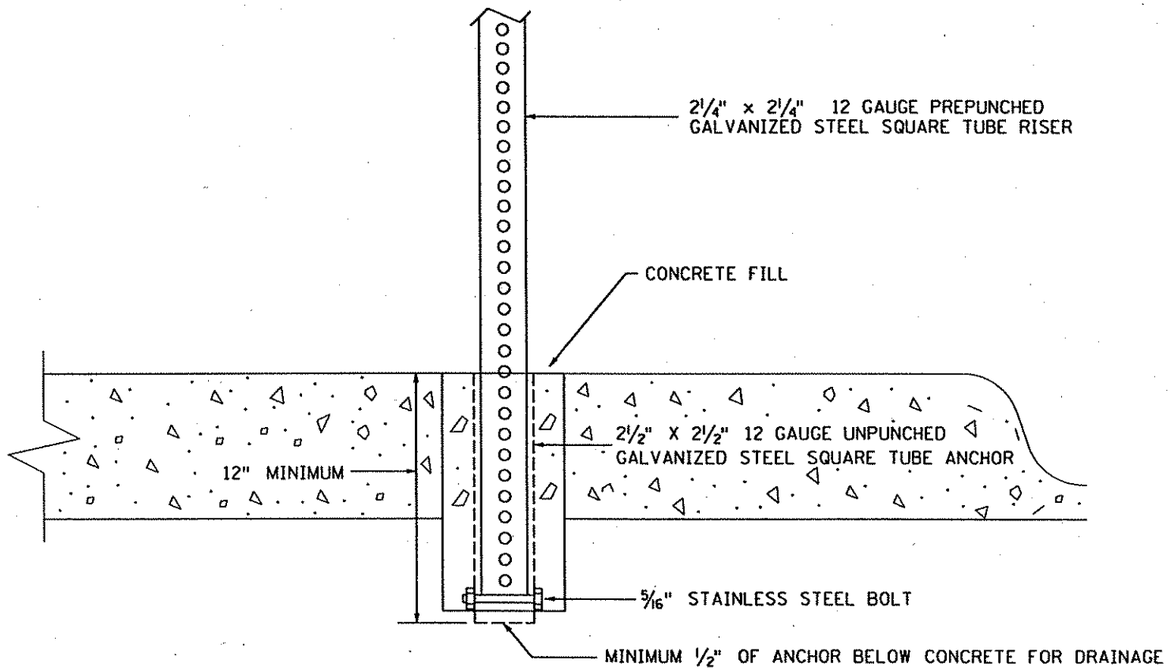
CDS6W.STR CDS 6-18-99



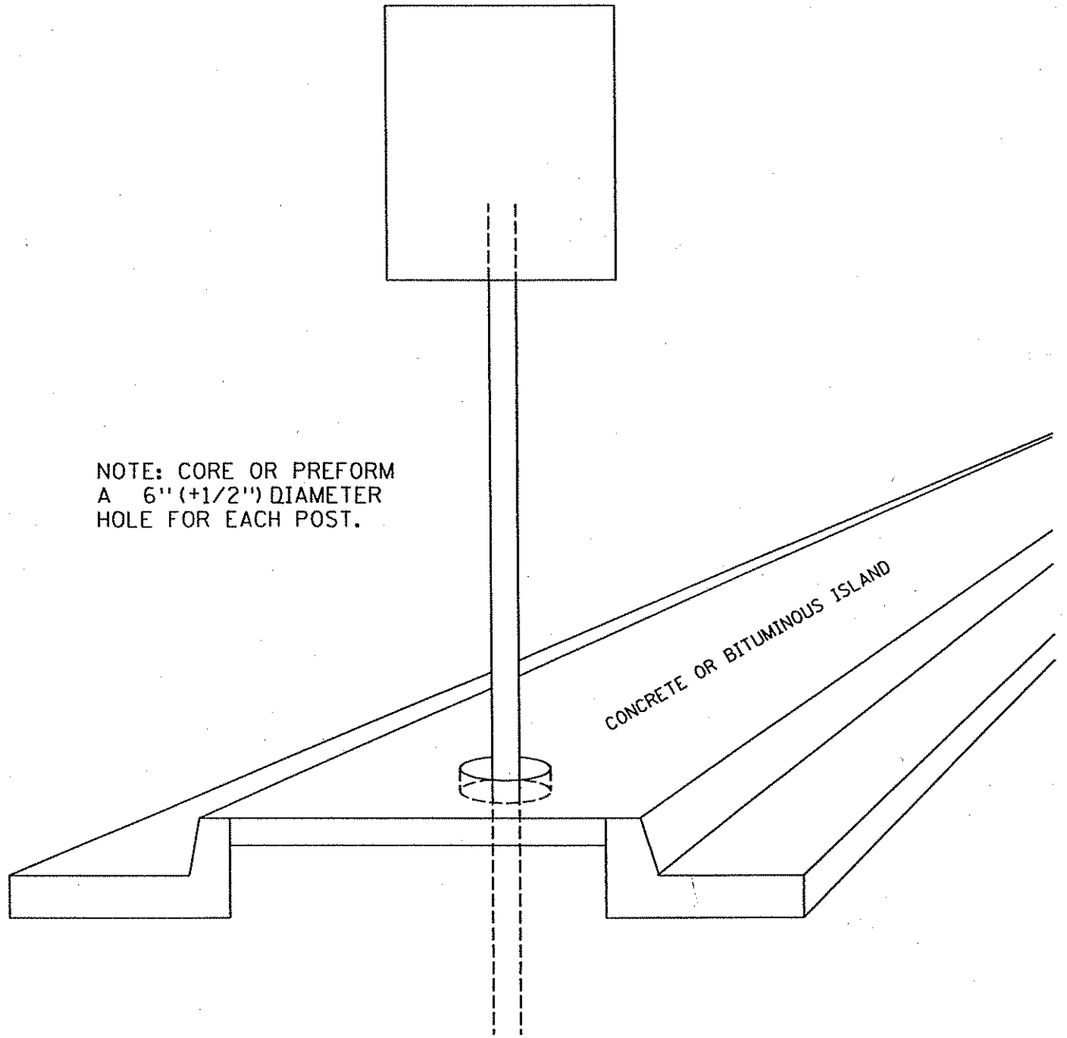
NOTES;

1. DRILL A 8" DIAMETER HOLE THE FULL DEPTH OF THE ANCHOR.
2. DRILL ⅜" HOLES ON OPPOSITE SIDES OF THE UNPUNCHED GALVANIZED STEEL SQUARE TUBE ANCHOR APPROX. 1" FROM THE BOTTOM OF THE ANCHOR. INSERT A 5/16" STAINLESS STEEL BOLT THROUGH THE HOLES AND SECURE WITH A STAINLESS STEEL LOCK NUT WITH NYLON INSERT. THE PREPUNCHED GALVANIZED STEEL SQUARE TUBE RISER (TO BE INSERTED INSIDE THE UNPUNCHED GALVANIZED SQUARE TUBE ANCHOR) WILL REST ON BOLT.
3. INSERT THE ANCHOR IN THE HOLE.
4. AFTER INSTALLATION OF THE UNPUNCHED GALVANIZED STEEL SQUARE TUBE ANCHOR, FILL THE HOLE WITH A CONCRETE MIX APPROVED BY THE ENGINEER AND LEVEL OFF THE TOP OF CONCRETE.

Revised 1-18-06

TYPE C SIGNS, DELINEATORS
MARKERS IN CONCRETE

01/08/2007 11:33:15 AM R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\DGN\C-SIGNTINGS 35-36.dgn
C SIGN (SHT.64A) 3-25-04

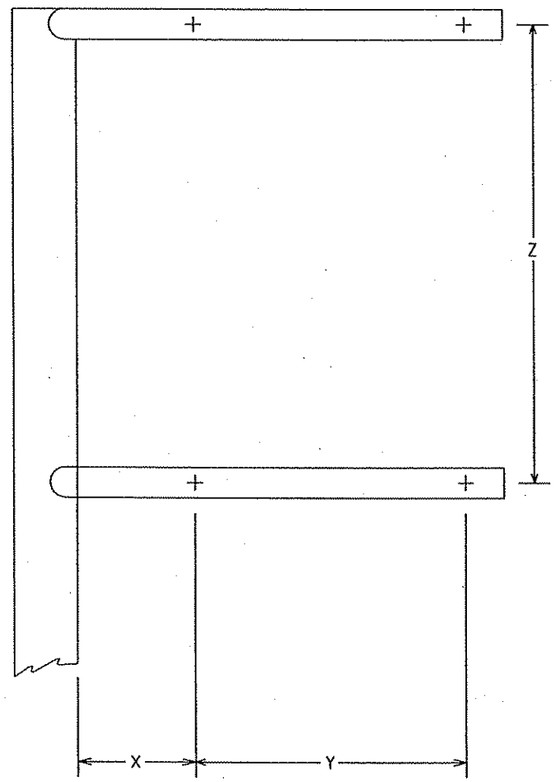


FLANGED CHANNEL POST MOUNTED THROUGH SURFACED

MEDIAN OR SIDEWALK

Revised 12-23-97

01/08/2007 11:32:57 AM R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\DGN\C-SIGN MINTINGS 35-36.dgn
C SIGN (SHT.64) 11-01-01

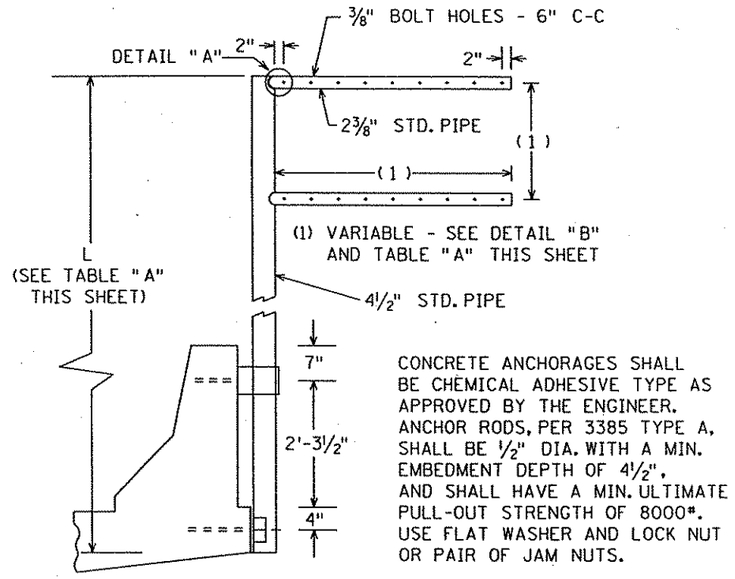


DETAIL "B"

SIGN NO.	X (IN.)	Y (IN.)	Z (IN.)	L (FT.)
C-15	6	30	18	10.0
C-16	9	(2)	18	9.5
C-29	12	30	18	10.0
C-36	6	36	36	11.0
C-37	16	18	18	12.5

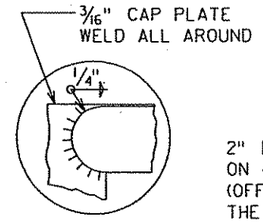
(2) ONLY ONE HORIZONTAL CONNECTION IS REQUIRED. DIMENSION "Y" SHALL BE TO THE END OF PIPE AND SHALL BE 9 IN. FOR C-16.

TABLE "A"



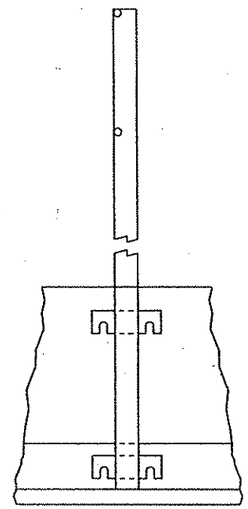
CONCRETE ANCHORAGES SHALL BE CHEMICAL ADHESIVE TYPE AS APPROVED BY THE ENGINEER. ANCHOR RODS, PER 3385 TYPE A, SHALL BE 1/2" DIA. WITH A MIN. EMBEDMENT DEPTH OF 4 1/2", AND SHALL HAVE A MIN. ULTIMATE PULL-OUT STRENGTH OF 8000#. USE FLAT WASHER AND LOCK NUT OR PAIR OF JAM NUTS.

ELEVATION

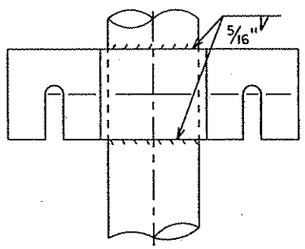


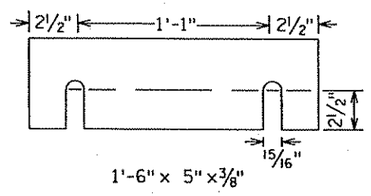
DETAIL "A"

2" PIPE OFFSET ON 4" PIPE (OFFSET SHALL BE IN THE SAME DIRECTION AS THE SIGN IS FACING)

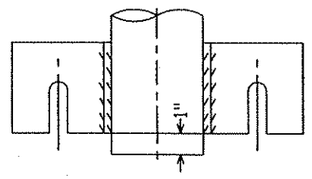


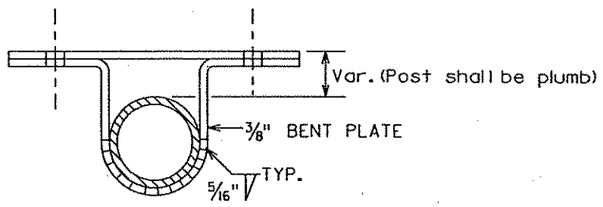
END VIEW



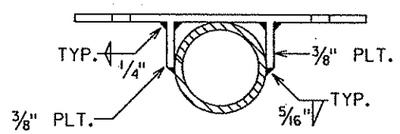


FILL PLATE





UPPER CONNECTION



LOWER CONNECTION

NOTES:
1. ALL PIPE MATERIAL SHALL CONFORM TO ASTM DESIGNATION A53, GRADE B, SCHEDULE 40.
2. ALL STEEL FOR STRUCTURAL ITEMS SHALL CONFORM TO MN/DOT 3306 (STRUCTURAL STEEL) UNLESS OTHERWISE NOTED.
3. FOR NOTES AND DETAILS NOT SHOWN, SEE TYPE C AND D SIGN DETAILS.

TYPE C & D SIGNS MOUNTED ON BRIDGE RAIL

4-1/2" O-PIPE (A)

REV. 2-27-04

State Proj. No. 0215-59 (T.H. 10) Sheet No. 426 of 681 Sheets

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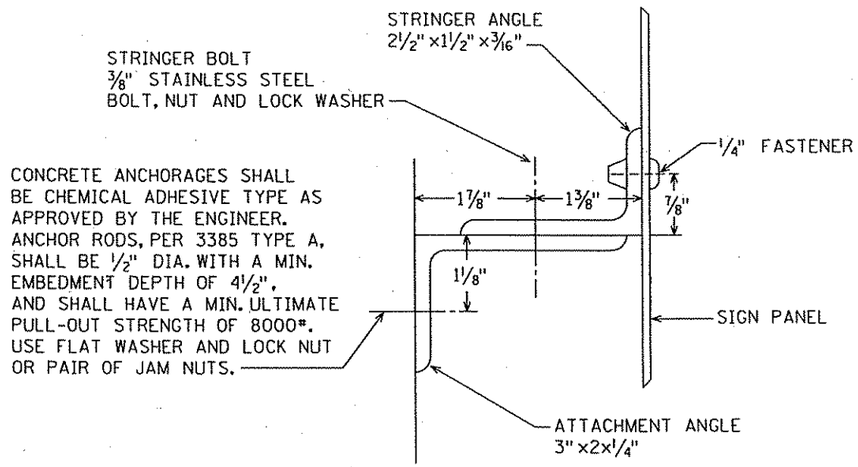
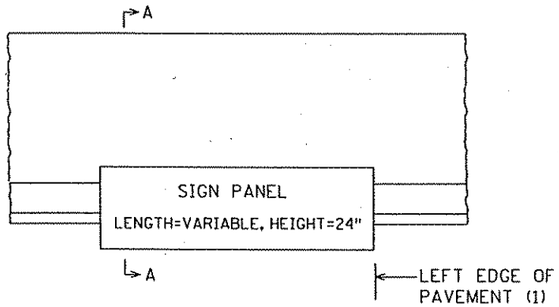


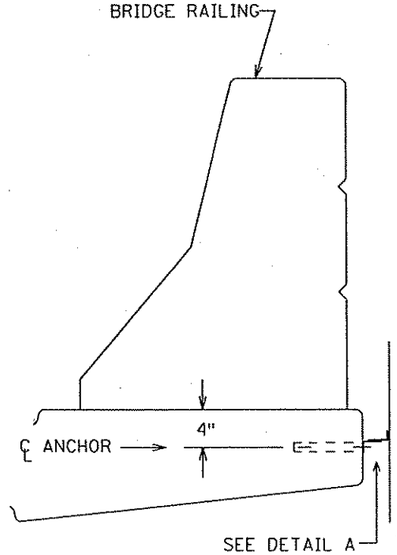
DETAIL A



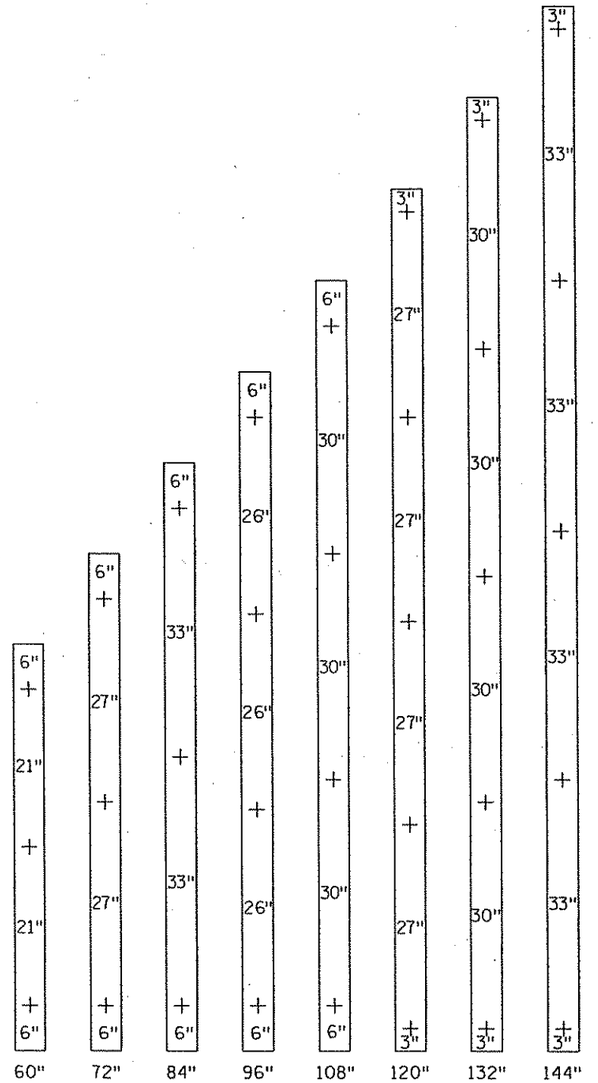
(1) SIGN PANEL MAY BE SHIFTED LATERALLY IF NECESSARY

ELEVATION

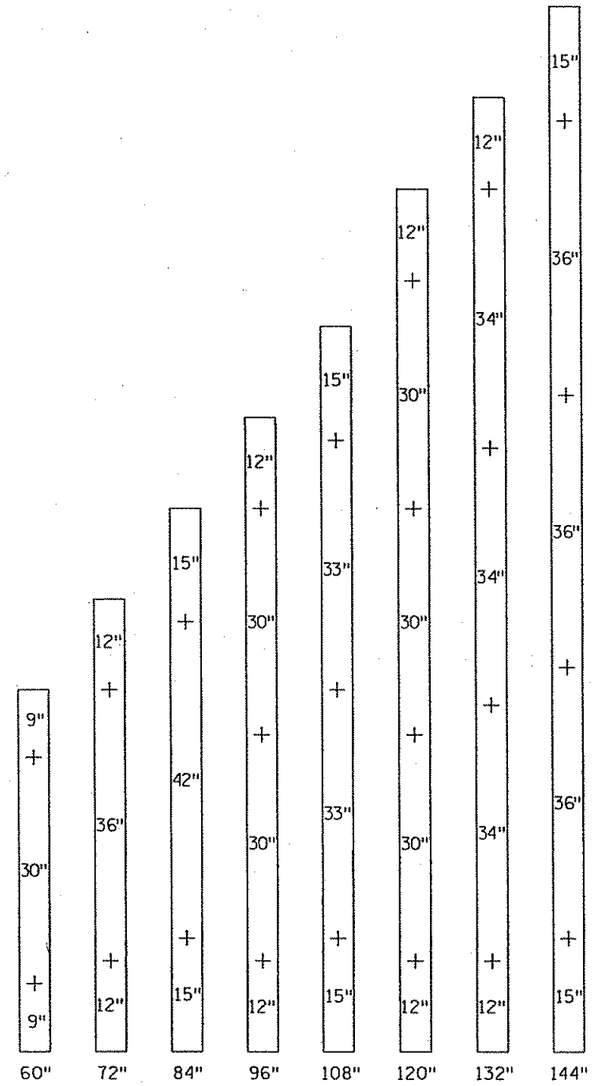
PANEL LENGTH	STRINGER ANGLE LENGTH	ATTACHMENT ANGLE LENGTH
60"	54"	48"
72"	66"	60"
84"	78"	72"
96"	90"	84"
108"	102"	96"
120"	114"	108"
132"	126"	120"
144"	138"	132"



SECTION A-A



SIGN PANEL LENGTH
PUNCHING FOR STRINGER BOLT



SIGN PANEL LENGTH
PUNCHING FOR CONCRETE ANCHOR

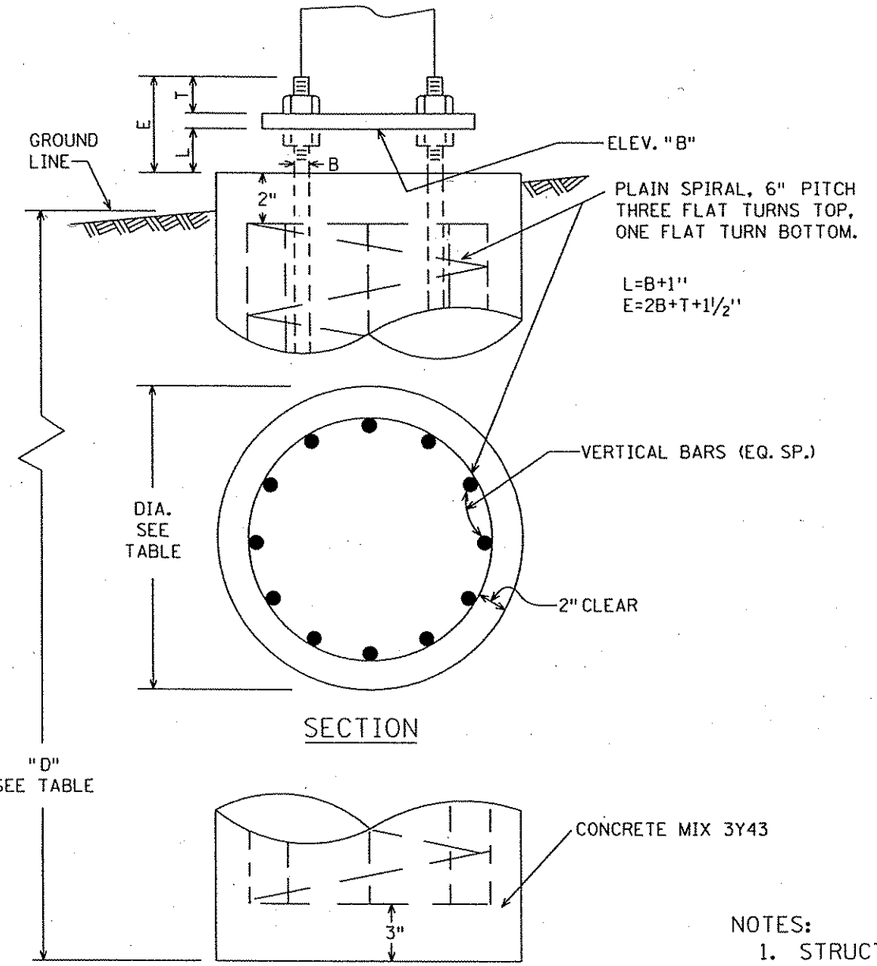
NOTES:
1. STRUCTURAL STEEL SHALL CONFORM TO MN/DOT 3306 AND SHALL BE GALVANIZED PER MN/DOT 3394.
2. SIGN PANEL SHALL BE FASTENED TO STRINGER AT 12" INTERVALS BEGINNING 6" FROM SIGN PANEL EDGE.

STRUCTURAL DETAILS
BRIDGE MOUNTED TYPE D SIGNS
DESIGN A2

Revised 6-5-98

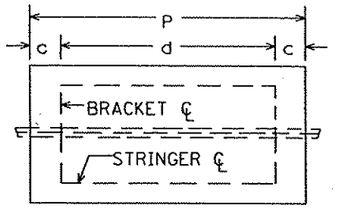
State Proj. No. 0215-59 (T.H. 10) Sheet No. 427 of 681 Sheets

01/08/2007 11:43:53 AM R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\DGN\Sign 38.dgn
D SIGN BR. (SHT.741 11-01-01

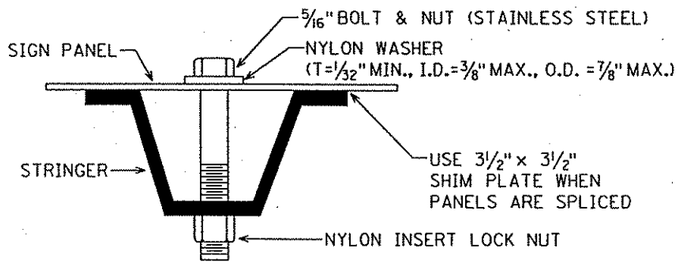


SECTION

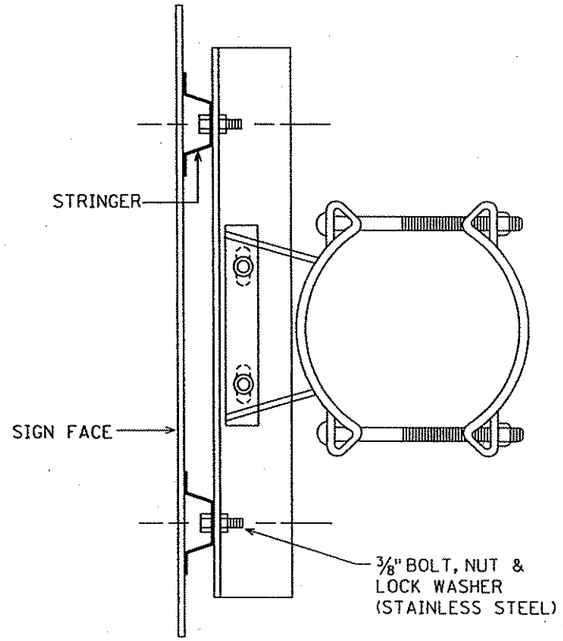
FOOTING DETAIL



P=96" OR LESS, c=.207P, d=.586P
P=102" THRU 168", c=.145P, d=.355P
P=174" THRU 228", c=107P, d=.262P
P=234" THRU 288", c=.084P, d=.208P



STRINGER AND PANEL ASSEMBLY



TYPICAL SIGN BRACKET ASSEMBLY

SIGN NO.	FOOTING DEPTH (D) MIN.		
	24" DIA.	30" DIA.	36" DIA.

SEE CROSS SECTIONS

NOTES:

1. STRUCTURES SHALL BE FABRICATED FROM STEEL AND SHALL BE DESIGNED FOR AN 80 MPH WIND SPEED IN ACCORDANCE WITH THE AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" DATED 1985. FABRICATION SHALL BE IN ACCORDANCE WITH MN/DOT 2471.3.
2. THE POSTS MAY BE SET UP TO 1/8" PER FOOT OUT OF PLUMB TO COMPENSATE FOR THE BENDING OF THE POST SUCH THAT, WITH ALL LOADS ATTACHED THE CENTER OF THE POST AT THE CROSSBEAM OR TRUSS ATTACHMENT LEVEL SHALL BE VERTICALLY ABOVE THE CENTER OF THE POSTS AT THE BASE PLATE LEVEL. THE CROSSBEAM OR TRUSS WITH ALL LOADS ATTACHED SHALL HAVE AT LEAST A RESIDUAL CAMBER OF THE SPAN/1000.
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR APPROVAL. THE SHOP DRAWINGS AND CALCULATIONS SHALL INCLUDE ANCHOR RODS, SPIRAL AND VERTICAL REINFORCEMENT, BASE PLATE, POST, CROSSBEAM OR TRUSS, POST CONNECTIONS AND SIGN BRACKET ASSEMBLY. SUBMITTAL SHALL INCLUDE FOOTING DIAMETER TO BE USED.
4. WELDING OF STRUCTURAL STEEL SHALL CONFORM TO MN/DOT 2471.3J. WELDING MATERIALS AND PROCESSES SHALL CONFORM TO MN/DOT 3339.
5. INSPECTION REQUIREMENTS WILL BE IN ACCORDANCE WITH MN/DOT 2471.3M.
6. ALL STRUCTURAL STEEL SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
7. SIGN BRACKET ASSEMBLIES SHALL BE SO DESIGNED THAT THE SIGN PANELS AND BRACKET ASSEMBLIES CAN BE ADJUSTED LATERALLY ON THE CROSSBEAM OR TRUSS.
8. STRINGERS SHALL CONFORM TO MN/DOT 3401 FOR 4# POSTS.
9. FOR STRINGER SPACING AND PANEL JOINT SEE "TYPE D STRINGER AND PANEL-JOINT DETAIL" ON STANDARD SIGNS MANUAL.

SIGN SUPPORTS

Revised 1-20-98

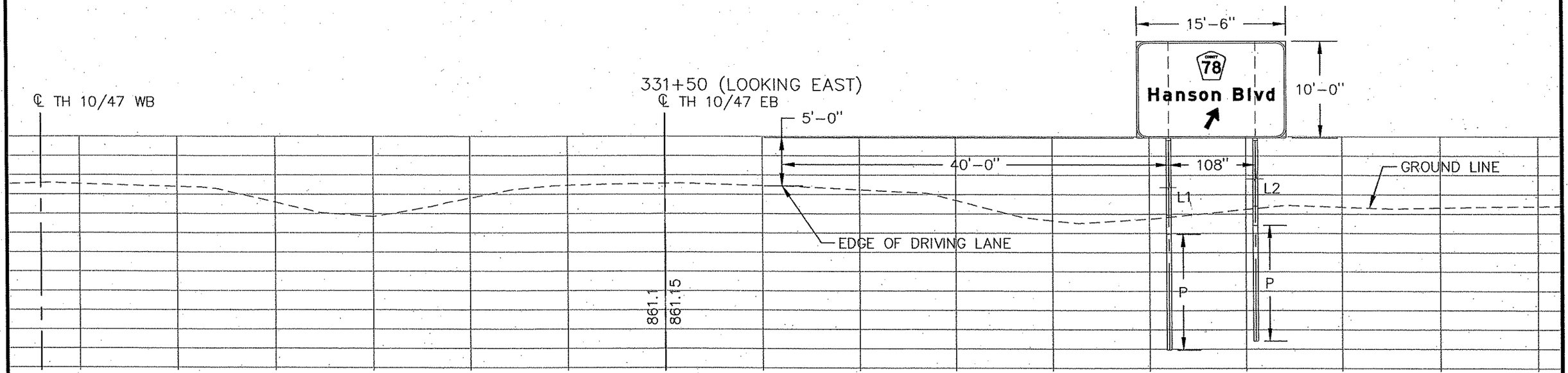
01/08/2007 11:44:48 AM R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\DGN\Sign 39.dgn
SIGN SUPPORT.STD (SHT.79)

Xref'd Drawings
-keel-sig
jn33150
34bdr

SIGN A–1
T.H. 10/47 EASTBOUND
STA. 331+50.00

QUANTITIES

POST TYPE W6X20
POST LENGTH L1 . . . . . 18.0'
POST LENGTH L2 . . . . . 17.0'
PILE FOOTING P . . . . . 12.0'
INSTALL SIGN PANEL



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: BWR
CHKED. BY: BWR | DWG. NAME: 042ASG01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN
TYPE A SIGNING

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 429 / 681

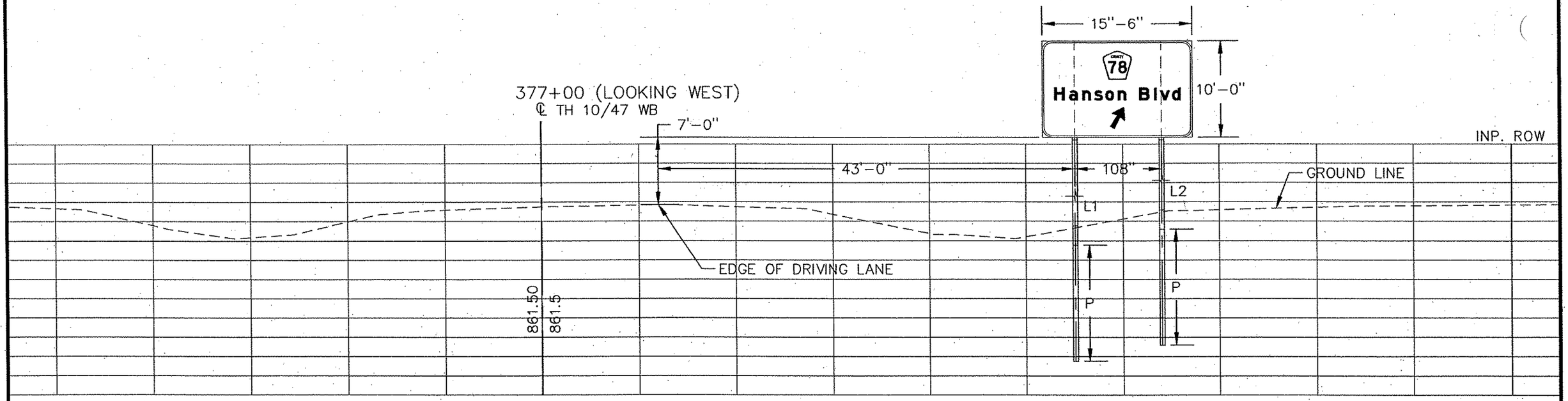
PLOT DATE: Jan 07 12:05pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\042-AS

Xref'd Drawings
-keel-sig
gn37700
34bdr

SIGN A-2
T.H. 10/47 WESTBOUND
STA. 377+00.00

QUANTITIES

POST TYPE W6X20
POST LENGTH L1 . . . . . 19.50'
POST LENGTH L2 . . . . . 17.5'
PILE FOOTING P . . . . . 12.0'
INSTALL SIGN PANEL



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: BWR
CHKED. BY: BWR | DWG. NAME: 042ASG02
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
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612.370.1378 Fax

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Karl P. Keel

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

SIGNING AND STRIPING PLAN

TYPE A SIGNING

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 430 / 681

41 OF

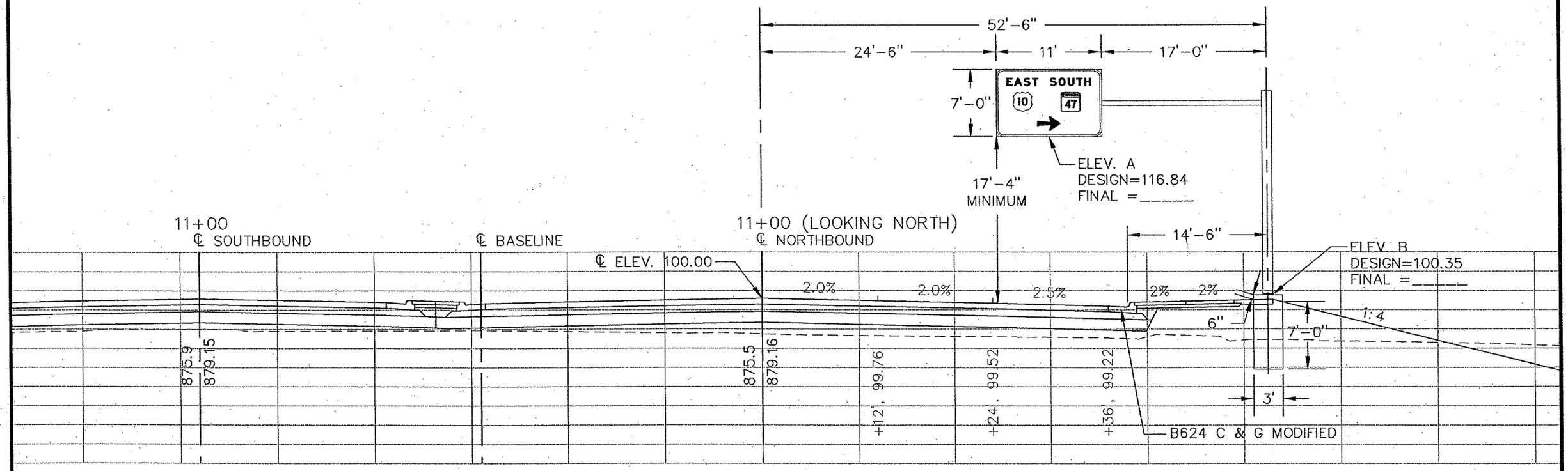
PLOT DATE: Jan 07 12:05pm DISK FILE NAME: (16.1) R:\33889\338890042\PLAN-SHT\SIGN-STRIPE\042-AS

Xrefd Drawings
—keel—sig
SIGN—GS
34bdr

OH 84–10
HANSON BOULEVARD NORTHBOUND (CSAH 11)
STA. 11+00.00

QUANTITIES

	DESIGN	FINAL
SIGN PANEL TYPE OH	77.0 SQ.FT.	_____



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: IKR | DESIGN BY: BWR
CHKED. BY: BWR | DWG. NAME: 0420HSG01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

SIGNING AND STRIPING PLAN

OVERHEAD SIGNING

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 431 / 681

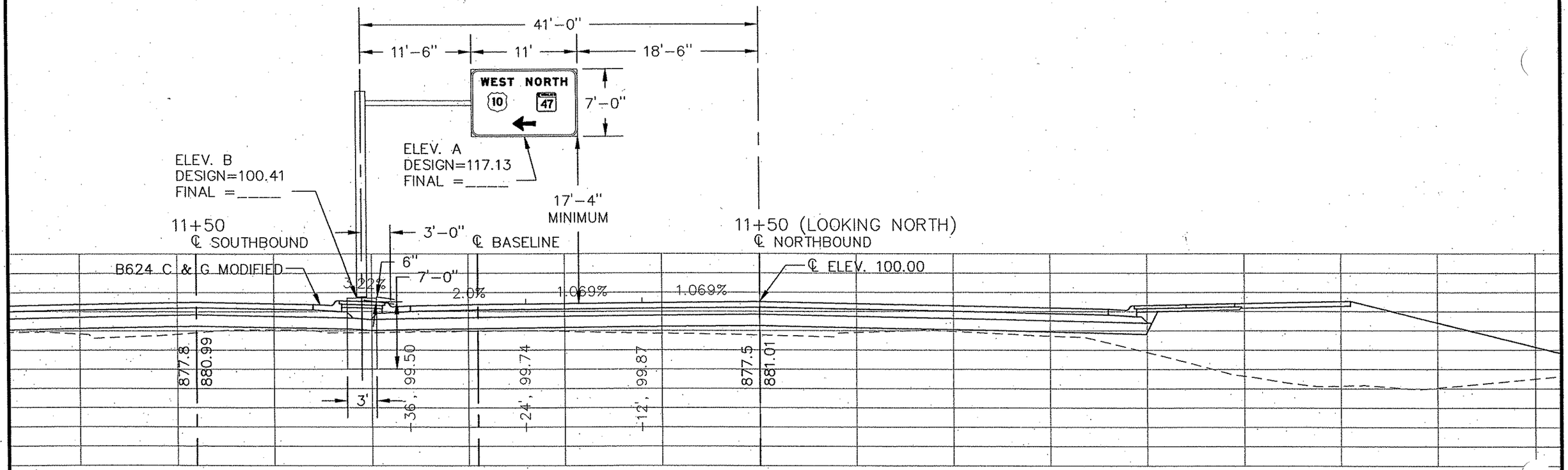
PLOT DATE: Jan 17 12:06pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\0420HSG

Xref'd Drawings
--keel-sig
SIGN-CS
534bdr

OH 85-10
HANSON BOULEVARD NORTHBOUND (CSAH 11)
STA. 11+50.00

QUANTITIES

	DESIGN	FINAL
SIGN PANEL TYPE OH	77.0 SQ.FT.	_____



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: BWR
CHKED. BY: BWR | DWG. NAME: 0420HSG02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN
OVERHEAD SIGNING

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 432 / 681

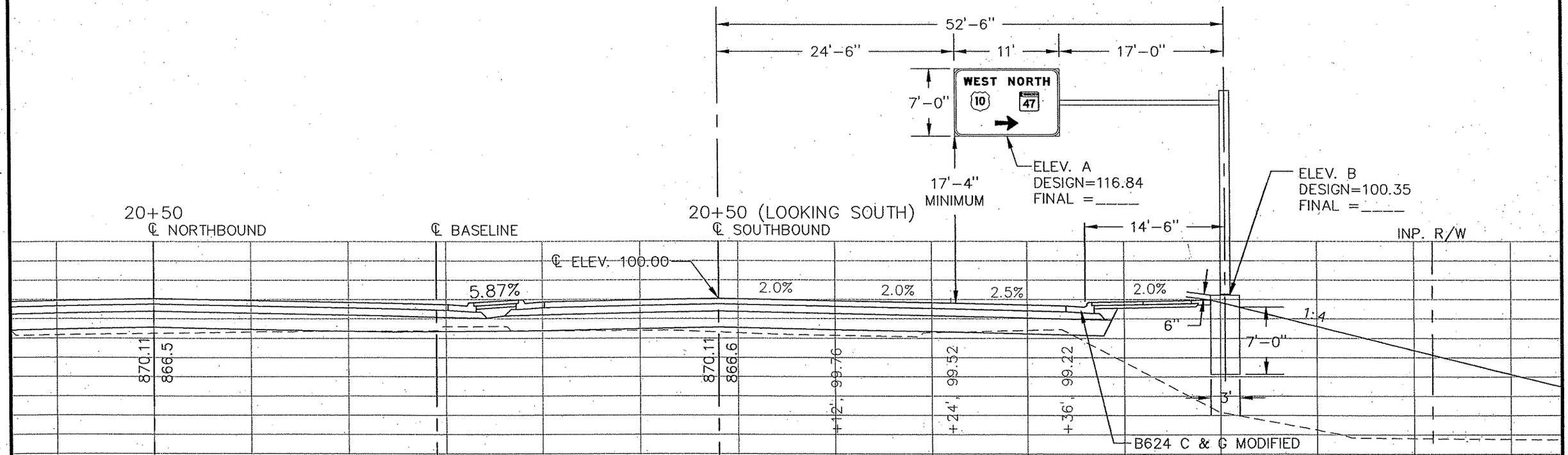
PLOT DATE: Jan 07 12:06pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\0420HSG

Xref'd Drawings
-keel-sig
SIGN-CS
34bdr

OH 86-10
HANSON BOULEVARD SOUTHBOUND (CSAH 11)
STA. 20+50.00

QUANTITIES

	DESIGN	FINAL
SIGN PANEL TYPE OH	77.0 SQ.FT.	_____



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: BWR
CHKED. BY: BWR | DWG. NAME: 0420HSG04
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN
OVERHEAD SIGNING

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 433 / 681

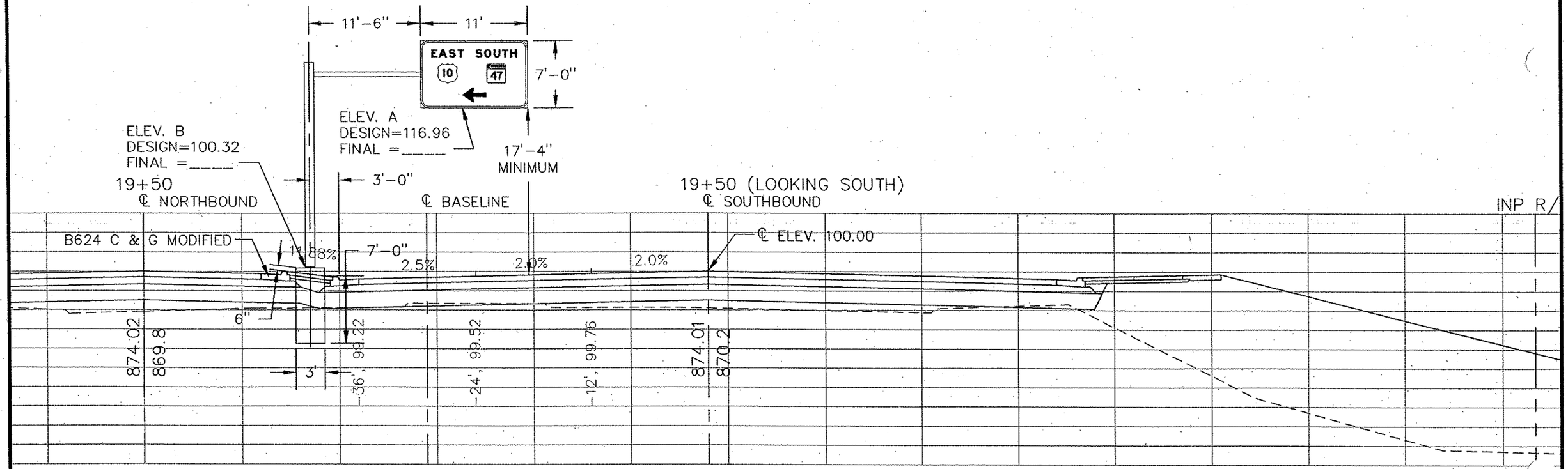
PLOT DATE: Jan 07 12:06pm DISK_FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\0420HS

Xref'd Drawings
—keel—sig
SIGN—OS
534bdr

OH 87—10
HANSON BOULEVARD SOUTHBOUND (CSAH 11)
STA. 19+50.00

QUANTITIES

	DESIGN	FINAL
SIGN PANEL TYPE OH	77.0 SQ.FT.	_____



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889—042	
DRAWN BY: IKR	DESIGN BY: BWR
CHKED. BY: BWR	DWG. NAME: 0420HSG03
DATE: JANUARY 8, 2007	

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl L. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

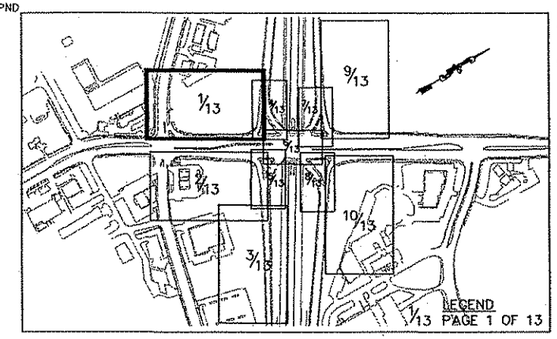
TH 10/HANSON BOULEVARD INTERCHANGE
SIGNING AND STRIPING PLAN
OVERHEAD SIGNING

CITY PROJECT	01—31	S.P.	0215—59
S.P.	02—678—17	S.P.	02—611—29
		S.P.	114—020—28
		S.P.	114—010—14

SHEET NO. 434 / 681

PLOT DATE: Jan 17 12:06pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\SIGN-STRIPE\0420HSG

Xref'd Drawings
HANS-PRD-CON-PND
HNSN-TURF
HNSN-LSC-2
PRD-ESM
hnsn-psg
HNSN-ALI
HNSN-PUT
HNSN-CON-LM
SUT
HNSN-
22x34bdr



NOTE:
1. SEE TURF ESTABLISHMENT SHEETS FOR LIMITS OF SEEDING
2. KEEP TREES AND SHRUBS ABOVE HIGH WATER LINE
3. PLANT PLUGS IN EMERGENT ZONE PER REMARKS ON THE PLUG SCHEDULE.
4. PLUGS TO BE LAYED OUT AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.

NORTH

0 10 20 40
SCALE IN FEET

3 BLACK WILLOW
3 BICOLOR OAK
2 BUR OAK
2–2" QUAKING ASPEN
3–1" QUAKING ASPEN
8 GREY DOGWOOD
3 BLACK WILLOW
5 RED–TWIGGED DOGWOOD
POND LINER
3–2" QUAKING ASPEN
3–1" QUAKING ASPEN
2–1" QUAKING ASPEN
LIMIT OF GRADING
1–2" QUAKING ASPEN
1–1" QUAKING ASPEN
12 RED–TWIGGED DOGWOOD
5 AUSTRIAN PINE
1–2" QUAKING ASPEN
HWL – 861
POND LINER
NWL – 856.5
EMERGENT ZONE –
SEE PLANT LIST FOR
PLUG PLANTING LOCATIONS
(PLUG PLANTINGS)
POND C
9 RED–TWIGGED DOGWOOD
3 BLACK WILLOW
3–2"QUAKING ASPEN
4–1" QUAKING ASPEN
POND OUTLINE
4 BUR OAK
11 ACCOLADE ELM
6 BICOLOR OAK
PROP. R/W
EX. R/W
NORTHDALE BOULEVARD
3 BUR OAK
1–1" QUAKING ASPEN
1–2" QUAKING ASPEN
3 AUSTRIAN PINE
2–1" QUAKING ASPEN
RAMP C
10' O.C. (TYP.)
10' O.C. (TYP.)
6 BICOLOR OAK
LANDSCAPE EDGER
30' O.C. (TYP.)
7.5'
3' (TYP.)
EX. R/W
HANSON BOULEVARD
44 KARL FOERSTER FEATHER REED GRASS
14 FOXI PAVEMENT SHRUB ROSE
44 KARL FOERSTER FEATHER REED GRASS
4" CONCRETE WALK SPECIAL–1
WALK (TYP.)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: RWK | DESIGN BY: TPH
CHKED. BY: TPH | DWG. NAME: 042–LS–01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

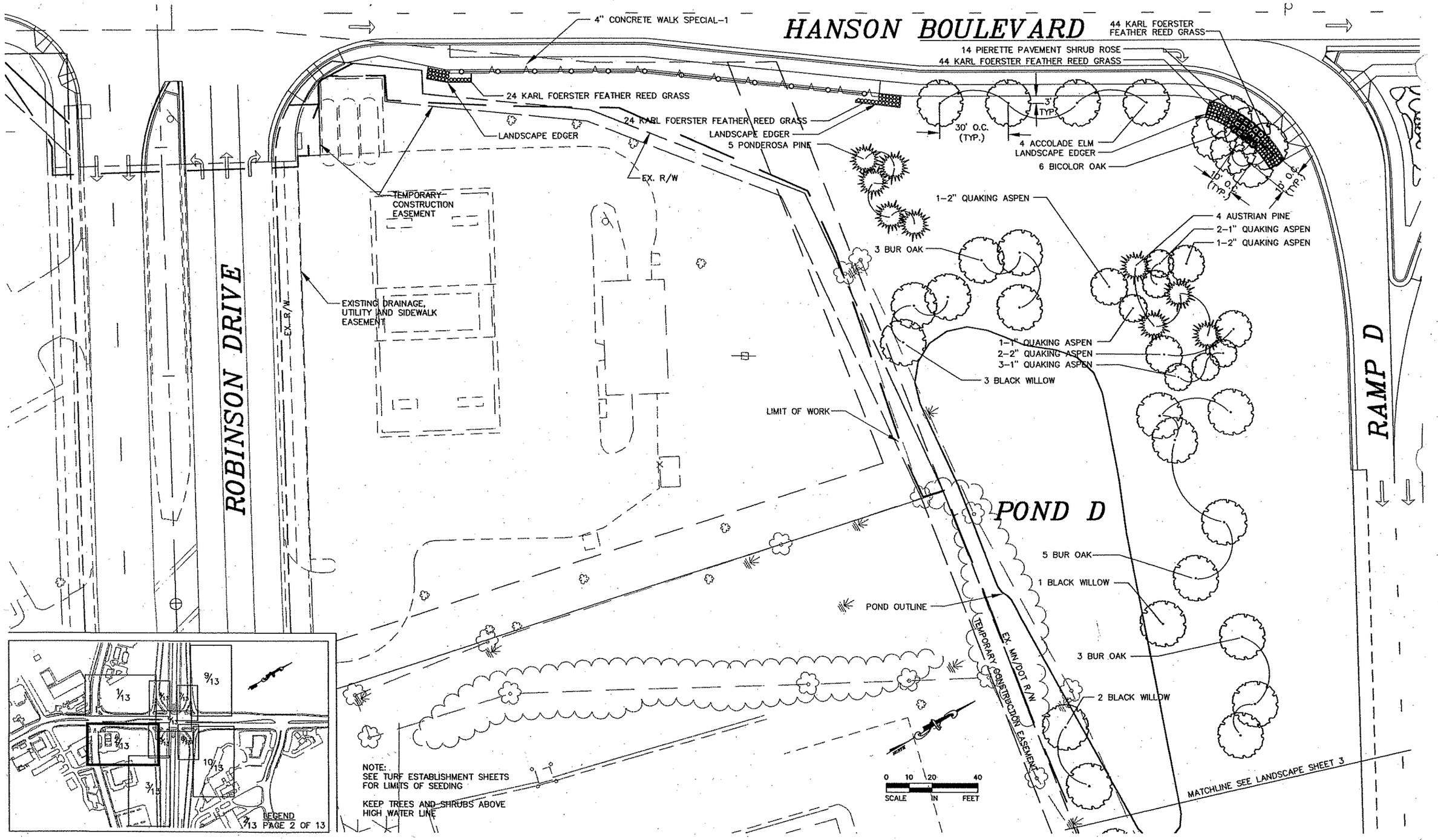
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.
RICHARD W. KOECHLEIN
DATE: 1/8/2007 MN LIC. NO. 26678

TH 10/HANSON BOULEVARD INTERCHANGE
LANDSCAPE PLANS
POND C AREA

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 435 / 681

PLOT DATE: Jan 07 10:08am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-LS



2 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: RWK
DESIGN BY: TPH
CHKED. BY: TPH
DWG. NAME: 042-LS-02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

RICHARD W. KOECHLEIN

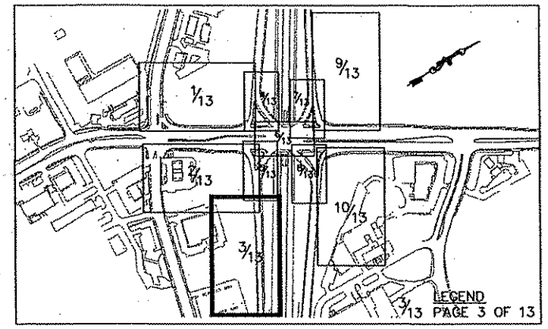
DATE: 1/8/2007 MN LIC. NO. 26678

TH 10/HANSON BOULEVARD INTERCHANGE
LANDSCAPE PLANS
POND D AREA

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 436 / 681

PLOT DATE: Jan. 07 10:08am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-LS



RAMP D

POND D

MATCHLINE SEE LANDSCAPE SHEET 2

POND OUTLINE

1 BUR OAK

1–2" QUAKING ASPEN

3–1" QUAKING ASPEN

5 PONDEROSA PINE

2 BUR OAK

4–1" QUAKING ASPEN

3–2" QUAKING ASPEN

EX. MN/DOT R/W

LIMIT OF WORK

TEMPORARY CONSTRUCTION EASEMENT

NOTE: SEE TURF ESTABLISHMENT SHEETS FOR LIMITS OF SEEDING

0 10 20 40
SCALE IN FEET

3 OF 13

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: RWK | DESIGN BY: TPH
CHKED. BY: TPH | DWG. NAME: 042–LS–03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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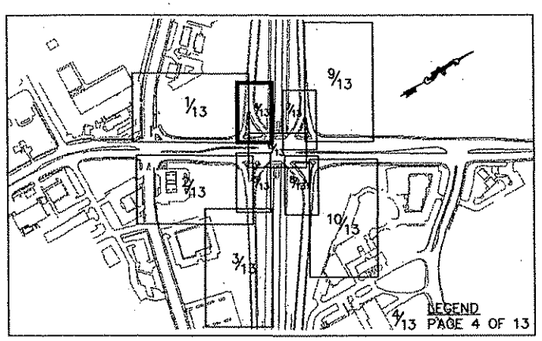
RICHARD W. KOECHLEIN
DATE: 1/8/2007 MN LIC. NO. 26678

TH 10/HANSON BOULEVARD INTERCHANGE
LANDSCAPE PLANS
RAMP D AREA

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 437 / 681

NSN–WALLS
RD–ESM
NSN–PSG
NSN–ALI
NSN–PUT
NSN–CON–LIM
NSN–EUT
–BDR
PLOT DATE: Jan 07 10:08am DISK FILE NAME:- (16.1) R:\33689\33889042\PLAN–SHT\PRD–CONST\042–LS–



17 WOODBINE
40 BLACK EYED SUSAN
60 KARL FOERSTER FEATHER REED GRASS
MAINTENANCE STRIP (TYP.)
WALK (TYP.)
96 KIPPENBURG ASTER
37 BLACK EYED SUSAN
37 BLACK EYED SUSAN
30 BIG BLUE STEM
(28) ZING ROSE DIANTHUS
(42) LONDON GROVE BLUE PHLOX
(81) LONDON GROVE BLUE PHLOX
(52) HAPPY RETURNS DAYLILY
(66) LONDON GROVE BLUE PHLOX
(23) KOBOLD LIATRIS
(60) LONDON GROVE BLUE PHLOX
(21) KARL FOERSTER FEATHER REED GRASS
(20) AUTUMN JOY SEDUM
(96) HAPPY RETURNS DAYLILY
(66) LONDON GROVE BLUE PHLOX
30 STAGHORN SUMAC
50 SWITCHGRASS
RAMP C
(38) ZING ROSE DIANTHUS
(17) KIPPENBURG ASTER
(13) KOBOLD LIATRIS
(20) LITTLE SPIRE RUSSIAN SAGE
(32) AUTUMN JOY SEDUM
(40) HAPPY RETURNS DAYLILY
(13) LITTLE BLUE STEM
(15) KOBOLD LIATRIS
(18) BLACK-EYED SUSAN
(36) ZING ROSE DIANTHUS
NO MOW MIX
3" (MIN.)
3" (MIN.)
HANSON BOULEVARD
0 5 10 20
SCALE IN FEET

4 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: RWK | DESIGN BY: TPH
CHKED. BY: TPH | DWG. NAME: 042-LS-04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

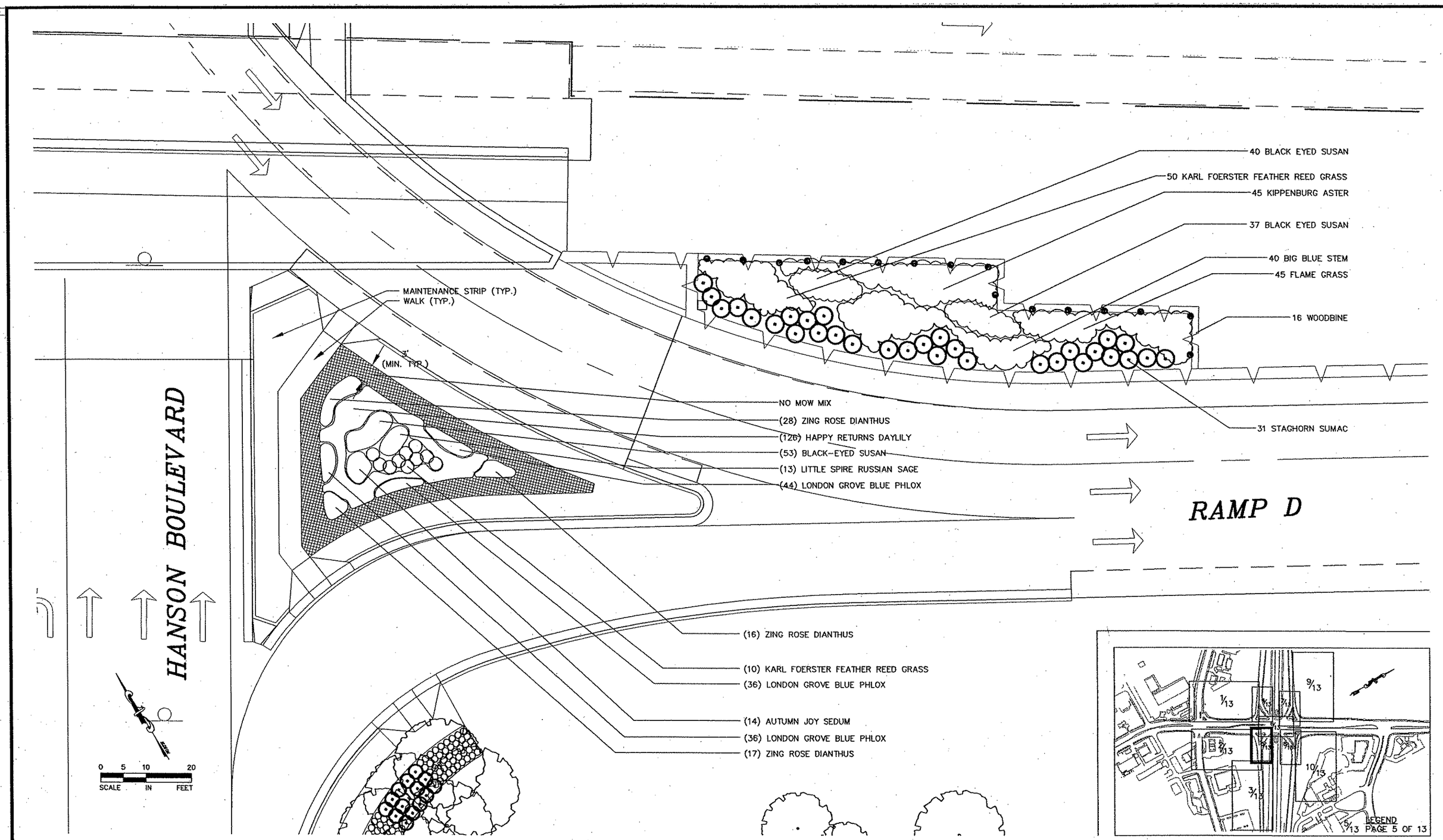
RICHARD W. KOECHLEIN
DATE: 1/8/2007 MN LIC. NO. 26678

TH 10/HANSON BOULEVARD INTERCHANGE
LANDSCAPE PLANS
HANSON BOULEVARD AND RAMP C AREA

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 438 / 681

PLOT DATE: Jan 7, 10:08am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-LS-
NSN-WALLS
RD-ESM
NSN-psg
NSN-ALI
NSN-PUT
NSN-CON-UM
NSN-EUT
EF-DWG-BDR
NSN-ES
NSN-E
NSN-L
2x34bo



5 OF 13

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: RWK
DESIGN BY: TPH
CHKED. BY: TPH
DWG. NAME: 042-LS-05
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
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RICHARD W. KOECHLEIN

DATE: 1/8/2007 MN LIC. NO. 26678

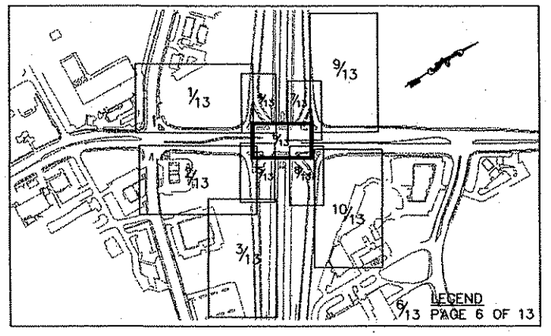
TH 10/HANSON BOULEVARD INTERCHANGE
LANDSCAPE PLANS
HANSON BOULEVARD AND RAMP D AREA

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 439 / 681

PLOT DATE: Jan 07 10:08am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-LS-

NSN-Traffic Markings
RD-ESM
NSN-psg
NSN-ALI
NSN-PUT
NSN-CON-LIM
NSN-EUT
EF-DWG-BDR
NSN-ESU
NSN-ETC
NSN-PS
2x34b



RAMP C

RAMP A

10'-0" O.C. TYP.
EQ. EQ.

5 PRECAST CONCRETE PLANTERS
FILL PLANTERS W/ POTTING SOIL.
VERIFY FINAL PLACEMENT WITH ENGINEER

SIGNAL BRIDGE PEDESTAL
SEE SIGNAL PLANS & BRIDGE PLANS FOR DETAILS

COLORED CONCRETE PAVING

HANSON BOULEVARD BRIDGE

SIGNAL BRIDGE PEDESTAL
SEE SIGNAL PLANS & BRIDGE PLANS FOR DETAILS

COLORED CONCRETE PAVING

6 PRECAST CONCRETE PLANTERS
FILL PLANTERS W/ POTTING SOIL
VERIFY FINAL PLACEMENT WITH ENGINEER

RAMP D

RAMP B

EQ. EQ.
10'-0" O.C. TYP.

NORTH

0 5 10 20
SCALE IN FEET

6 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: RWK | DESIGN BY: TPH
CHKED. BY: TPH | DWG. NAME: 042-LS-06
DATE: JANUARY 8, 2007

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Minneapolis, MN 55415
612.370.0700 Tel
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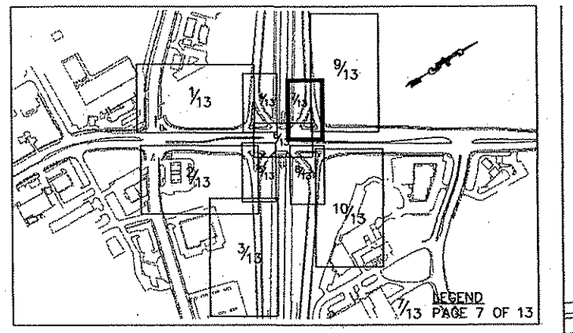
RICHARD W. KOECHLEIN
DATE: 1/8/2007 MN LIC. NO. 26678

TH 10/HANSON BOULEVARD INTERCHANGE
LANDSCAPE PLANS
BRIDGE PLANTERS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 440 / 681

PLOT DATE: Jan 07 10:09am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-LS-



(22) ZING ROSE DIANTHUS
(178) HAPPY RETURNS DAYLILY
(13) KIPPENBURG ASTER
(46) HAPPY RETURNS DAYLILY
(21) LONDON GROVE BLUE PHLOX
(18) AUTUMN JOY SEDUM
(14) LITTLE SPIRE RUSSIAN SAGE
(56) LONDON GROVE BLUE PHLOX
(17) KARL FOERSTER FEATHER REED GRASS

RAMP A

(21) ZING ROSE DIANTHUS
(19) AUTUMN JOY SEDUM
(27) LITTLE SPIRE RUSSIAN SAGE
(14) BLACK-EYED SUSAN
(26) ZING ROSE DAINTHUS
NO MOW MIX

26 STAGHORN SUMAC
20 KIPPENBURG ASTER

17 WOODBINE
50 KARL FOERSTER FEATHER REED GRASS
27 BLACK EYED SUSAN
25 BIG BLUE STEM
60 KIPPENBURG ASTER
40 BLACK EYED SUSAN

3' (MIN. TYP.)

MAINTENANCE STRIP (TYP.)
WALK (TYP.)

HANSON BOULEVARD

SCALE IN FEET 0 5 10 20

7 OF 13

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: RWK | DESIGN BY: TPH
CHKED. BY: TPH | DWG. NAME: 042-LS-07
DATE: JANUARY 8, 2007

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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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RICHARD W. KOECHLEIN
DATE: 1/8/2007 MN LIC. NO. 26678

TH 10/HANSON BOULEVARD INTERCHANGE
LANDSCAPE PLANS
HANSON BOULEVARD AND RAMP A AREA

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

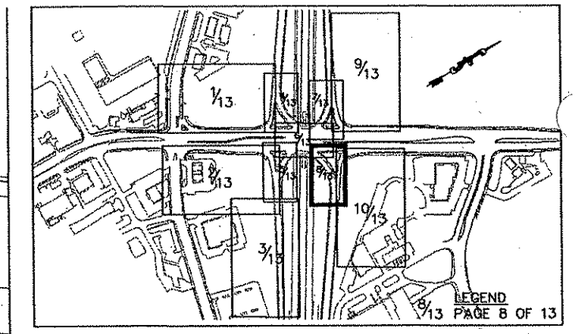
SHEET NO. 441 / 681

PLOT DATE: Jan 07 10:09am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-LS-

HANSON BOULEVARD

RAMP B

NO MOW MIX
(361) HAPPY RETURNS DAYLILY
(22) ZING ROSE DIANTHUS
(28) ZING ROSE DIANTHUS
(23) BLACK EYED SUSAN
~~(32) LITTLE SPIRE RUSSIAN SAGE~~
~~(20) KIPPENBURG ASTER~~
(85) LONDON GROVE BLUE PHLOX
(45) AUTUMN JOY SEDUM
~~(11) BLACK EYED SUSAN~~
(70) LONDON GROVE BLUE PHLOX



3' (MIN.)

(20) KIPPENBURG ASTER
(11) LITTLE BLUE STEM
(31) ZING ROSE DIANTHUS
(40) KOBOLD LIATRIS
(25) KARL FOERSTER FEATHER REED GRASS
(29) LITTLE SPIRE RUSSIAN SAGE
(53) LONDON GROVE BLUE PHLOX
(59) LONDON GROVE BLUE PHLOX
~~(25) ZING ROSE DIANTHUS~~

WALK (TYP.)
MAINTENANCE STRIP (TYP.)

53 STAGHORN SUMAC
30 FLAME GRASS
42 KARL FOERSTER FEATHER REED GRASS
50 BLACK EYED SUSAN
62 SWITCHGRASS
50 BLACK EYED SUSAN
205 KIPPENBURG ASTER
45 BIG BLUESTEM
64 BLACK EYED SUSAN
55 FLAME GRASS
22 WOODBINE

0 5 10 20
SCALE IN FEET

8 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: RWK | DESIGN BY: TPH
CHKED. BY: TPH | DWG. NAME: 042-LS-08
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

RICHARD W. KOECHLEIN
DATE: 1/8/2007 MN LIC. NO. 26678

TH 10/HANSON BOULEVARD INTERCHANGE
LANDSCAPE PLANS
HANSON BOULEVARD AND RAMP B AREA

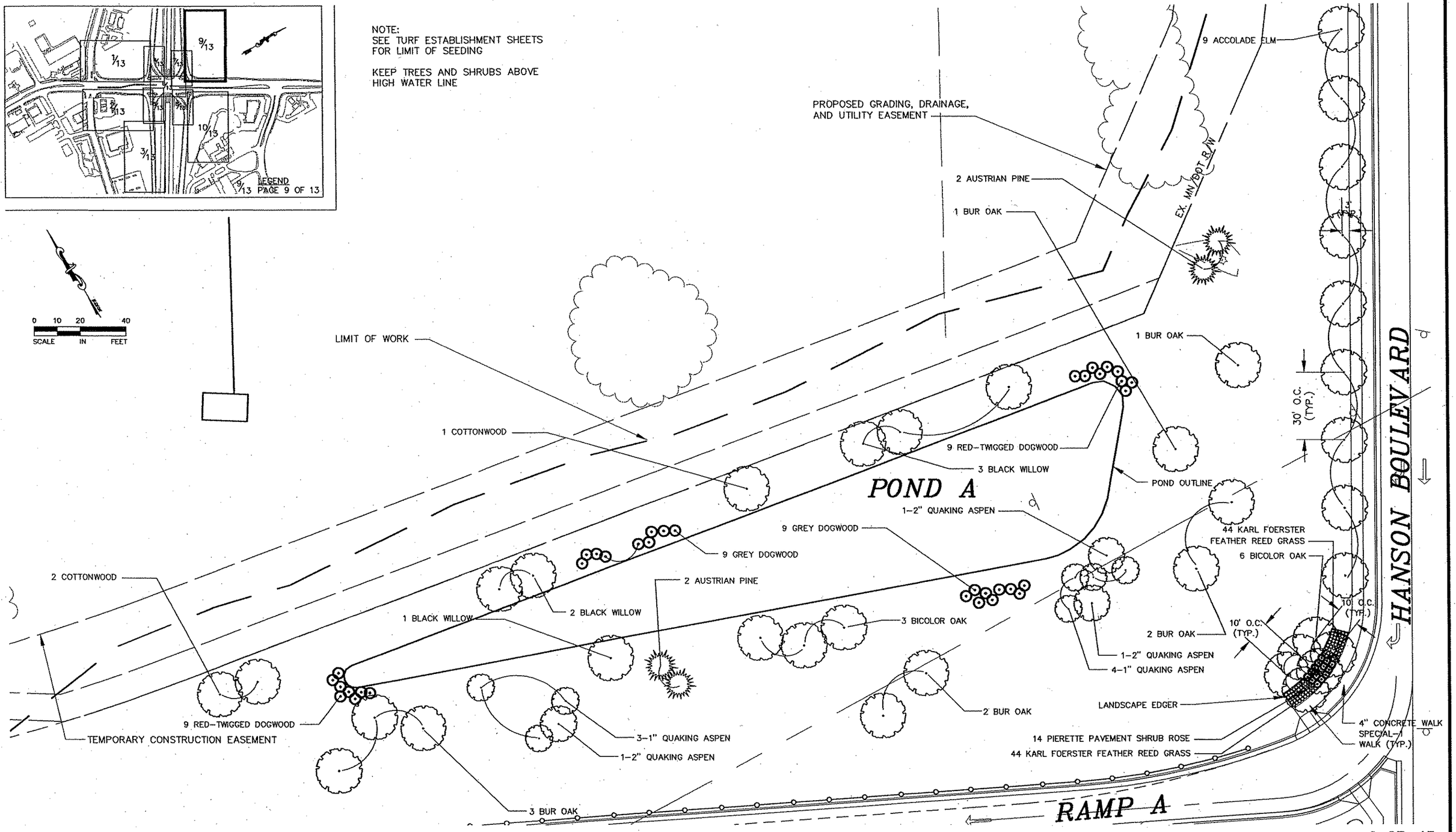
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 442 / 681

PLOT DATE: Jan 07 10:09am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-LS-

NOTE:
SEE TURF ESTABLISHMENT SHEETS FOR LIMIT OF SEEDING

KEEP TREES AND SHRUBS ABOVE HIGH WATER LINE



9 OF 13

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	IKR	9-23-05	REVISED EASEMENTS

DESIGN FILE: 33889-042
DRAWN BY: RWK
DESIGN BY: TPH
CHKED. BY: TPH
DWG. NAME: 042-LS-09
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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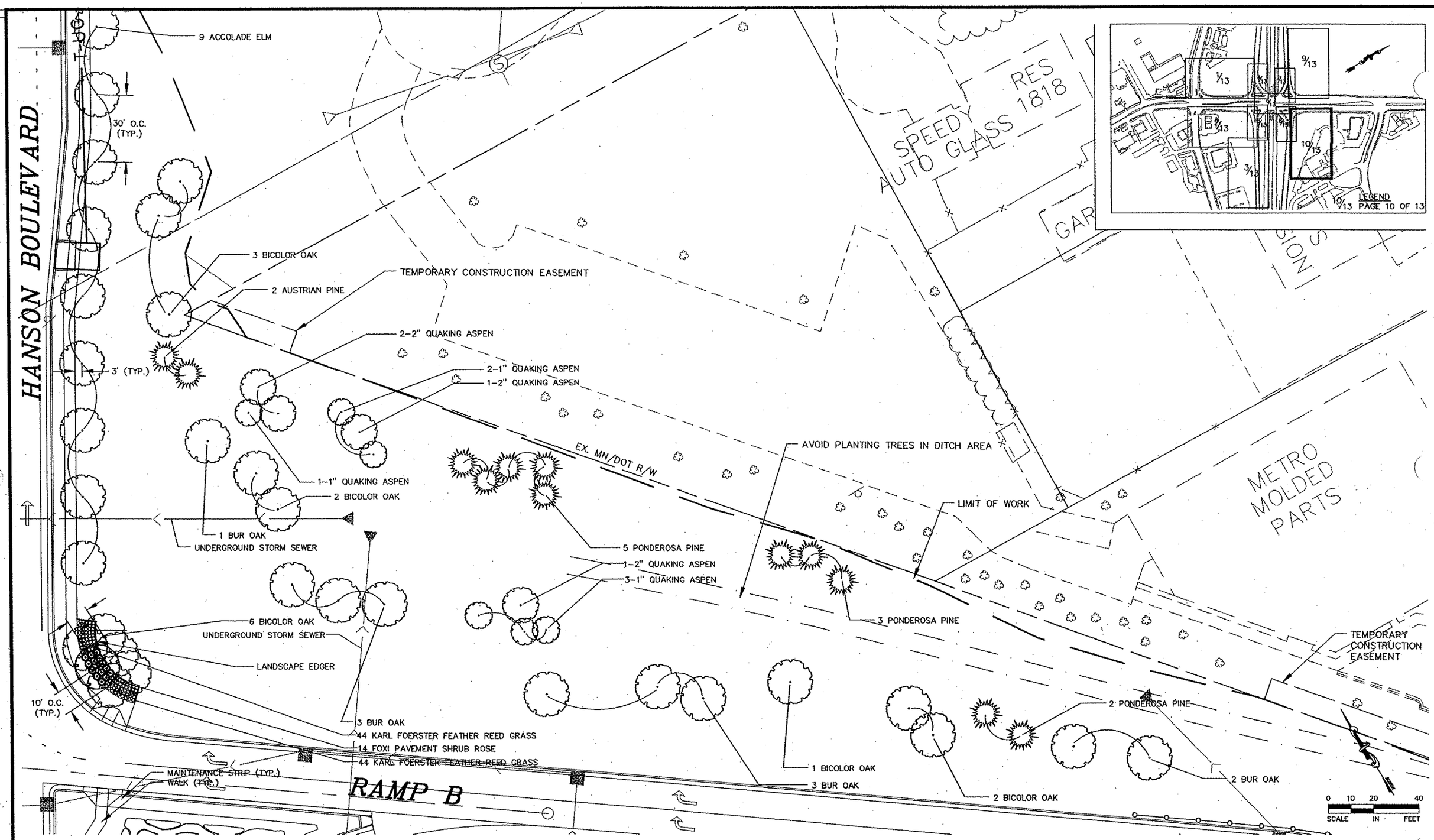
RICHARD W. KOECHLEIN
DATE: 1/8/2007 MN LIC. NO. 26678

TH 10/HANSON BOULEVARD INTERCHANGE
LANDSCAPE PLANS
POND A AREA

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 443 / 681

PLOT DATE: Jan 07 10:09am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-LS



10 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: RWK
DESIGN BY: TPH
CHKED. BY: TPH
DWG. NAME: 042-LS-10
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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RICHARD W. KOECHLEIN
DATE: 1/8/2007 MN LIC. NO. 26678

TH 10/HANSON BOULEVARD INTERCHANGE
LANDSCAPE PLANS
HANSON BOULEVARD AND RAMP B AREA

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 444 / 681

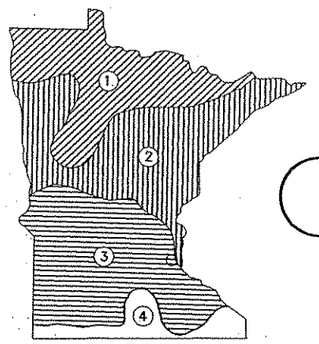
PLOT DATE: Jan 07 10:09am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-LS-

PLANT SCHEDULE

KEY	TOTAL QTY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
BO	41	BUR OAK	QUERCUS MACROCARPA	2" CAL.	B&B	SINGLE LEADER
SO	44	BICOLOR OAK	QUERCUS BICOLOR	2" CAL.	B&B	SINGLE LEADER
AE	33	ACCOLADE ELM	ULMUS AMERICANA 'ACCOLADE'	2" CAL.	B&B	SINGLE LEADER, 30' O.C.
BW	21	BLACK WILLOW	SALIX NIGRA	2" CAL.	B&B	SINGLE LEADER
CW	3	COTTONWOOD	POPULUS DELTOIDES	2"	CONT.	SINGLE LEADER
QA	26	QUAKING ASPEN	POPULUS TREMULOIDES	2"	CONT.	SINGLE LEADER
QA	38	QUAKING ASPEN	POPULUS TREMULOIDES	1"	CONT.	SINGLE LEADER
PP	20	PONDEROSA PINE	PINUS PONDEROSA	6'	B&B	FULL TO GROUND
AP	18	AUSTRIAN PINE	PINUS NIGRA	6'	B&B	FULL TO GROUND
SS	140	STAGHORN SUMAC	RHUS TYPHINA	24"	CONT.	SPACE 5' O.C.
FR	28	FOXI PAVEMENT SHRUB ROSE	ROSA 'FOXI PAVEMENT'	18"	CONT.	SPACE 5' O.C.
PR	28	PIERETTE PAVEMENT SHRUB ROSE	ROSA 'PIERETTE PAVEMENT'	18"	CONT.	SPACE 5' O.C.
RD	44	RED-TWIGGED DOGWOOD	CORNUS SERICEA	24"	CONT.	SPACE 5' O.C.
GW	26	GREY DOGWOOD	CORNUS RACEMOSA	24"	CONT.	SPACE 5' O.C.
WB	72	WOODBINE	PARTHENOCISSUS INSERTA	#2	CONT.	SPACE 8 O.C.
BE	541	BLACK EYED SUSAN	RUDBECKIA FULGIDA 'GOLDSTURM'	#1	CONT.	SPACE 24" O.C.
KA	496	KIPPENBURG ASTER	ASTER NOVAE-ANGLIAE 'PROF. ANTON KIPPENBURG'	#1	CONT.	SPACE 24" O.C.
ZD	338	ZING ROSE DIANTHUS	DIANTHUS 'ZING ROSE'	#1	CONT.	SPACE 15" O.C.
BP	776	LONDON GROVE BLUE PHLOX	PHLOX DIVARCATA 'LONDON GROVE BLUE'	#1	CONT.	SPACE 10" O.C.
KL	91	KOBOLD LIATRIS	LIATRIS SPICATA 'KOBOLD'	#1	CONT.	SPACE 18" O.C.
HR	899	HAPPY RETURNS DAYLILY	HEMEROCALLIS 'HAPPY RETURNS'	#1	CONT.	SPACE 18" O.C.
AS	148	AUTUMN JOY SEDUM	SEDUM 'HERBSTFREUDE'	#1	CONT.	SPACE 18" O.C.
SG	135	LITTLE SPIRE RUSSIAN SAGE	PEROVSKIA 'LITTLE SPIRE'	#1	CONT.	SPACE 18" O.C.
KF	625	KARL FOERSTER FEATHER REED GRASS	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	#1	CONT.	SPACE 24" O.C.
BM	140	BIG BLUE STEM	ANDROPOGON GERARDI	#1	CONT.	SPACE 36" O.C.
LB	24	LITTLE BLUE STEM	SCHIZACHYRIUM SCOPARIUM 'THE BLUES'	#1	CONT.	SPACE 24" O.C.
SG	112	SWITCH GRASS	PANICUM VIRGATUM	#1	CONT.	SPACE 36" O.C.
FG	130	FLAME GRASS	MICANTHUS SINENSIS 'PURPURASCENS'	#1	CONT.	SPACE 30" O.C.
	0.12	NO MOW SEEDING	-	AC		

PLUG SCHEDULE

TOTAL QTY	COMMON NAME	BOTANICAL NAME	SPACING	REMARKS
30	RIVER BULRUSH	SCIRPUS FLUVIATILIS	2-4'	PLANT 0.5' TO 1' VERT. INTO NWL
20	GREEN BULRUSH	SCIRPUS ATROVIRENS	2-4'	PLANT 0.5' TO 1' VERT. INTO NWL
20	HARDSTEM BULRUSH	SCIRPUS ACUTUS	2-4'	PLANT 0.5' TO 1' VERT. INTO NWL
45	SOFTSTEM BULRUSH	SCIRPUS VALIDUS	2-4'	PLANT 0.5' TO 1' VERT. INTO NWL
30	THREE SQUARE BULRUSH	SCIRPUS PUNGENS	2-4'	PLANT 0.5' TO 1' VERT. INTO NWL
20	PICKEREL WEED	PONTEDERIA CORDATA	2-4'	PLANT 0.5' TO 1' VERT. INTO NWL IN GROUPS OF 3-4.
20	COMMON BURREED	SPARGANIUM ANGUSTIFOLIUM	2-4'	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
20	MUD PLANTAIN	ALISMA SUBCORDATUM	2-4'	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
40	SOFT RUSH	JUNCUS EFFUSUS	2-4'	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
45	ARROWHEAD	SAGITTARIA LATIFOLIA	2-4'	PLANT 0 TO 5' HORIZONTALLY INTO NWL
30	SWEETFLAG	ACORUS CALAMUS	2-4'	PLANT 0 TO 5' HORIZONTALLY INTO NWL
40	LAKE SEDGE	CAREX LACUSTRIS	2-4'	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
20	SEDGE MIX	CAREX SPP.	2-4'	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
45	BLUE FLAG IRIS	IRIS VERSICOLOR	2-4'	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
30	WOOLGRASS	SCIRPUS CYPERINUS	2-4'	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
20	PORUPINE SEDGE	CAREX HYSTRICINA	2-4'	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
30	FOX SEDGE	CAREX VULPINOIDEA	2-4'	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
20	POINTED BROOM SEDGE	CAREX COMOSA	2-4'	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
40	JOE-PYE WEED	EUPATORIUM MACULATUM	2-4'	PLANT AT NWL TO TOP OF HIGH WATER LEVEL
20	BONESET	EUPATORIUM PERFOLIATUM	2-4'	PLANT AT NWL TO TOP OF HIGH WATER LEVEL
30	BLUE LOBELIA	LOBELIA SIPHILITICA	2-4'	PLANT AT NWL TO TOP OF HIGH WATER LEVEL
30	CARDINAL FLOWER	LOBELIA CARDINALIS	2-4'	PLANT AT NWL TO TOP OF HIGH WATER LEVEL
30	PRAIRIE CORD GRASS	SPARTINA PECTINATA	2-4'	PLANT AT NWL TO TOP OF HIGH WATER LEVEL
30	MARSH MILKWEED	ASCLEPIAS INCARNATA	2-4'	PLANT AT NWL TO TOP OF HIGH WATER LEVEL
20	LIATRIS	LIATRIS PYCNOSTACHYA	2-4'	PLANT HALF WAY BETWEEN NWL AND HIGH WATER LEVEL
30	CULVER'S ROOT	VERONICASTRUM VIRGINICUM	2-4'	PLANT HALF WAY BETWEEN NWL AND HIGH WATER LEVEL

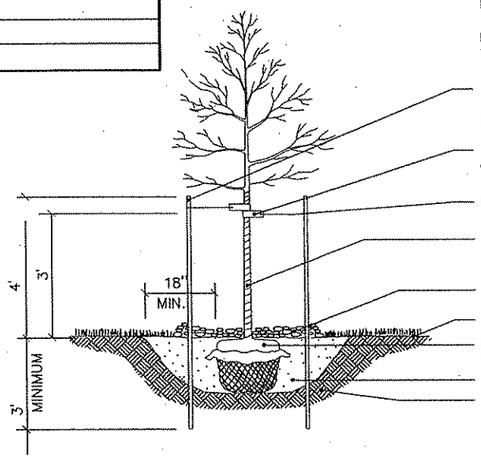


○ - INDICATES PROJECT LOCATION

OPTIMUM PLANTING DATE ZONES IN MINNESOTA

	SPRING			FALL	
	SEEDLING	DECIDUOUS	EVERGREEN	DECIDUOUS	EVERGREEN
1	APRIL 15 TO MAY 15	APRIL 21 TO JUNE 1	APRIL 21 TO JUNE 1	OCT. 1 TO NOV. 1	AUG. 25 TO SEPT. 15
2	APRIL 7 TO MAY 15	APRIL 14 TO JUNE 1	APRIL 14 TO MAY 24	OCT. 1 TO NOV. 6	AUG. 25 TO SEPT. 15
3	APRIL 1 TO MAY 15	APRIL 7 TO JUNE 1	APRIL 7 TO MAY 17	OCT. 10 TO NOV. 15	AUG. 25 TO SEPT. 15

NOTES:
1. SEEDLING INCLUDES DECIDUOUS AND EVERGREEN STOCK.
2. ACTUAL DATES MAY CHANGE DEPENDING UPON SEASONAL CONDITIONS AS DETERMINED BY THE ENGINEER.
3. FALL PLANTING IS NOT ALLOWED WITHOUT PRIOR APPROVAL FROM ENGINEER. SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS. THE FOLLOWING PLANTS ARE NOT RECOMMENDED FOR FALL INSTALLATION. HAWTHORNE, RUSSIAN OLIVE, DOGWOOD, POPLAR, HACKBERRY, LINDEN, IRONWOOD, HONEYLOCUST, BIRCH, MOUNTAIN ASH, MAPLE, WILLOW, CRABAPPLE, PLUM/CHERRY, OAKS, SUMAC.



NOTE:
STEEL POSTS TO BE NOTCHED OR DRILLED TO RETAIN GUY WIRES. PLACE OUTSIDE OF ROOT BALL. DRIVE PLUMB REGARDLESS OF GROUND SLOPE.

7' ROLLED STEEL POST (Mn/DOT 3403) OR APPROVED EQUAL

16" LONG POLYPROPYLENE OR POLYETHYLENE (40 MIL) 1 1/2 " WIDE STRAPS.

DOUBLE STRAND 14 GA. WIRE

WRAP TREE TO FIRST BRANCHING W/ APPROVED TREE WRAP. START AT BOTTOM.

3' DIA. RING W/ 4" DEPTH MULCH

FINISHED GRADE

ROLL BACK BURLAP 1/3 OF ROOT BALL AND REMOVE ALL TWINE AND WIRE.

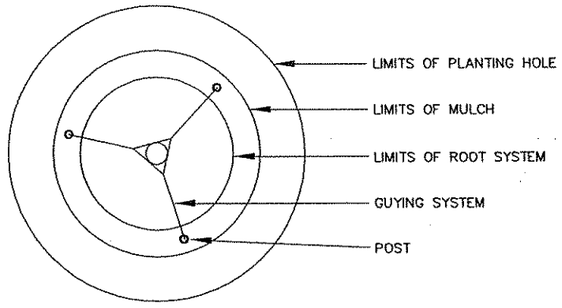
PLANTING SOIL

UNDISTURBED SOIL OR COMPACTED BACKFILL

REQUESTS TO SUBSTITUTE RUBBER HOSE AND WIRE GUYING SYSTEMS WILL NOT BE APPROVED.

TREE PLANTING AND STAKING/GUYING DETAIL

NOTE:
STAKING/GUYING IS NOT ANTICIPATED TO BE REQUIRED, NOR IS IT DESIRED. BUT IF STAKING/GUYING BECOMES NECESSARY, AS DETERMINED BY THE ENGINEER, THE STAKING/GUYING SHALL BE DONE IN ACCORDANCE WITH THE STANDARD TREE STAKING/GUYING DETAIL.



TYPICAL PLAN VIEW

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: RWK
DESIGN BY: TPH
CHKED. BY: TPH
DWG. NAME: 042-LS-11
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

RICHARD W. KOECHLEIN

DATE: 1/8/2007 MN LIC. NO. 26678

TH 10/HANSON BOULEVARD INTERCHANGE
LANDSCAPE DETAILS

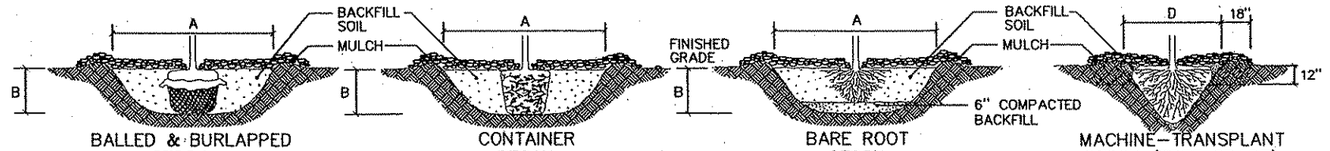
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 445 / 681

PLOT DATE: Jan 07 10:09am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-LS

PLANTING HOLE DIMENSIONS
(MINIMUM WIDTH DOES NOT APPLY IN MASS PLANTING BEDS)

PLANT TYPE	PLANT SIZE (UP TO AND INCLUDING)	MINIMUM HOLE WIDTH (INCHES) A	APPROXIMATE HOLE DEPTH (INCHES) B
EVERGREEN TREES	3' B.B.	42	11
	4' B.B.	51	13
	5' B.B.	60	13
	6' B.B.	66	15
	7' B.B.	72	16
	8' B.B.	81	18
	9' B.B.	90	20
	10' B.B.	102	21
SHADE & FLOWERING TREES	1" B.R.	54	14
	1 1/4 " B.B.	60	14
	1 1/2 " B.B.	66	15
	1 3/4 " B.B.	72	16
	2" B.R.	84	19
	2" B.B.	72	16
	2 1/2 " B.B.	84	19
	3" B.B.	96	20
	3 1/2 " B.B.	114	23
	4" B.B.	126	25
EVERGREEN SHRUBS (UPRIGHT)	2' B.B.	36	9
	3' B.B.	48	12
	4' B.B.	63	14
EVERGREEN SHRUBS (SPREADING)	18" spread B.B.	30	8
	2' spread B.B.	36	9
	2 1/2 ' spread B.B.	42	11
	3' spread B.B.	48	12
DECIDUOUS SHRUBS	18" B.R.	30	8
	2' B.R.	33	9
	3' B.R.	42	11
	4' B.R.	48	12
	5' B.R.	54	14
	6' B.R.	60	14
	18" B.B.	27	7
	2' B.B.	30	8
	3' B.B.	36	9
	4' B.B.	42	11
	5' B.B.	48	12
	6' B.B.	54	14
CONTAINER GROWN PLANTS	Cellpacks	6	2.5
	2.25" cont.	7	3
	3.5" cont.	10	3
	4.0" cont.	11	4
	4.5" cont.	13	4
	1 Quart cont.	15	5.5
	#1 cont.	18	6
	#2 cont.	23	7.5
	#3 cont.	29	8.5
	#5 cont.	30	11
	#7 cont.	37	11
	#10 cont.	44	14
	#15 cont.	45	15
	#20 cont.	60	17
	#25 cont.	72	16



BALLED & BURLAPPED STOCK

1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
3. SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY.
4. PLANT SHALL BE PLACED IN PLANTING HOLE WITH BURLAP AND WIRE BASKET, IF USED, INTACT. ONCE IN PLACE, THE PLANT SHALL BE BACKFILLED TO WITHIN 12" OF THE TOP OF THE ROOTBALL AND WATERED. THE TOP LOOPS OF THE WIRE BASKETS SHALL BE REMOVED AND THE BURLAP SHALL BE FOLDED OR CUT BACK.
5. PLUMB AND BACKFILL WITH THE BACKFILL SOIL SPECIFIED.
6. APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 3" DEPTH WATERING BASIN.
7. WATER THOROUGHLY WITHIN 2 HOURS.
8. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.
9. BIODEGRADABLE TWINE MAY BE LEFT ON AS SUPPORT BETWEEN THE ROOT BALL AND ROOT COLLAR UNTIL THE END OF THE PLANT ESTABLISHMENT PERIOD AT WHICH TIME IT MUST BE CUT AND TOTALLY REMOVED FROM THE ROOT COLLAR. THE TWINE MUST BE TIED OR RETIED TO MID-LEVEL LOOPS OR POINTS ON THE BASKET. USE OF NONBIODEGRADABLE TWINE SHALL NOT BE PERMITTED.

CONTAINER STOCK

1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
3. REMOVE CONTAINER AND SCORE OR PRUNE OUTSIDE OF SOIL MASS TO REDIRECT CIRCLING FIBROUS ROOTS AS NECESSARY.
4. SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY.
5. APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 3" DEPTH WATERING BASIN.
6. WATER THOROUGHLY WITHIN 2 HOURS.
7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

BARE ROOT STOCK

1. SOAK ROOTS IN WATER FOR AT LEAST ONE HOUR PRIOR TO PLANTING.
2. SCARIFY SIDES AND BOTTOM OF HOLE.
3. PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
4. TRANSFER PLANT DIRECTLY FROM WATER TO HOLE. SET PLANT AT SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY. PLUMB AND IMMEDIATELY BACKFILL WITH THE BACKFILL SOIL SPECIFIED.
5. APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 3" DEPTH WATERING BASIN.
6. WATER THOROUGHLY WITHIN 2 HOURS.
7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

MACHINE-TRANSPLANT STOCK (TREE SPADE)

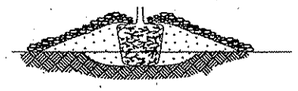
1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. SET PLANT ON UNDISTURBED NATIVE SOIL AT SAME DEPTH AS IT WAS PREVIOUSLY GROWN.
3. PLUMB AND BACKFILL WITH THE BACKFILL SOIL SPECIFIED, FILLING ALL VOIDS AND ACCOMPLISHING SETTLEMENT BY WATERING.
4. AFTER PLANTING, THE SOIL IMMEDIATELY ADJACENT TO THE SPADE MOVED SOIL, FOR A MINIMUM DISTANCE OF 18" SHALL BE TURNED OVER AND/OR ROTOTILLED TO A MINIMUM DEPTH OF 12".
5. CONSTRUCT 3" DEPTH WATERING BASIN.
6. WATER THOROUGHLY WITHIN 2 HOURS.
7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING. UNLESS SOIL MOISTURE IS EXCESSIVE.

NOTES:
1. THE PLANTING DETAILS REPRESENT ADEQUATELY DRAINED SOIL CONDITIONS, THE CONTRACTOR SHOULD EXERCISE DISCRETION IN SETTING PLANTS 1"-3" HIGHER IN POORLY DRAINED SOILS.
2. ON 2:1 SLOPES OR GREATER, DO NOT CONSTRUCT THE UPHILL HALF OF THE WATERING BASIN.
3. ON WET, POORLY DRAINED SOILS, DO NOT CONSTRUCT WATERING BASIN.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE DRAINAGE IN HEAVY POORLY DRAINED OR IMPERVIOUS SOILS.
5. PLANTS SHOULD BE SET AT THE PROPER DEPTH WHEREBY THE BEGINNING TAPER OF THE ROOT FLARE IS AT THE SAME ELEVATION AS THE FINISHED SOIL GRADE. THIS SHOULD BE THE SAME DEPTH AS THE PLANTS WERE GROWN AT IN THE NURSERY. NOTE THAT THE ROOTS OF BALLED AND BURLAPPED PLANTS ARE UNACCEPTABLE WHEN THEY ARE COVERED BY MORE THAN 4" OF SOIL IN THE TOP OF THE BALL.
6. DELAY MULCH PLACEMENT IF NECESSARY TO ALLOW MORE TIME FOR EXCESS SOIL MOISTURE TO EVAPORATE FROM PLANTING AREAS BEFORE PLACING MULCH.

MINIMUM TREE SPADE SIZE REQUIREMENTS

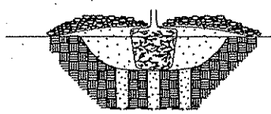
SPADE SIZE (DIAMETER) 'D'	OAK TREES (CALIPER)	DECIDUOUS TREES (CALIPER)	EVERGREEN TREES (HEIGHT)
42"	1.0" to 1.5"	2" to 3"	5' to 7'
60"	1.5" to 2.5"	3" to 4"	7' to 9'
78"	2.5" to 3.5"	4" to 6"	9' to 14'
85"	3.5" to 5.0"	6" to 8"	14' to 18'

PLANTING DETAILS FOR ISOLATED PLANTING LOCATIONS



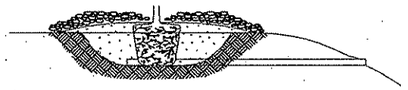
INSTALL MINI-BERM

1. EXCAVATE HOLE OR BED 1/4 THE DEPTH OF THE ROOT MASS.
2. SET ROOT MASS IN HOLE.
3. CONSTRUCT BERM WITH SANDY LOAM TOPSOIL EXTENDING THE BERM BASE TO A WIDTH 3 TIMES THE HEIGHT OF THE BERM.
4. COMPLETE PLANTING ACCORDING TO PLANTING DETAILS ABOVE AS APPLICABLE.



INSTALL GRANULAR FILTER

1. EXCAVATE HOLE OR BED TO ALLOW PLACING TOP OF ROOT MASS 1"-3" HIGHER THAN FINISHED GRADE.
2. AUGER 8" DIAMETER HOLES ENTIRELY THROUGH IMPERVIOUS OR POORLY DRAINED HARD PAN SOIL LAYER TO ADEQUATELY DRAINED SUBSOIL.
3. BACKFILL AUGER HOLES WITH A THOROUGHLY INCORPORATED MIXTURE OF 50% SAND AND 50% INPLACE SOIL.
4. COMPLETE PLANTING ACCORDING TO PLANTING DETAILS ABOVE AS APPLICABLE.

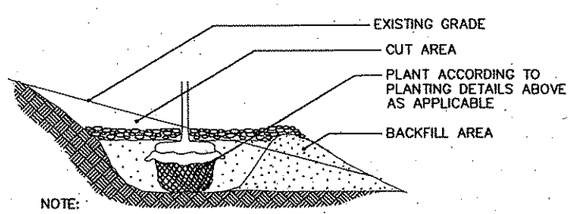


INSTALL TILE DRAINAGE

1. EXCAVATE HOLE OR BED TO ALLOW PLACMENT OF THE TOP OF THE ROOT MASS 1"-3" HIGHER THAN FINISHED GRADE.
2. INSTALL 4" MINIMUM DIAMETER DRAIN TILE DAYLIGHTING AT A LOWER GRADE AS APPROVED BY THE ENGINEER.
3. COMPLETE PLANTING ACCORDING TO PLANTING DETAILS ABOVE AS APPLICABLE.

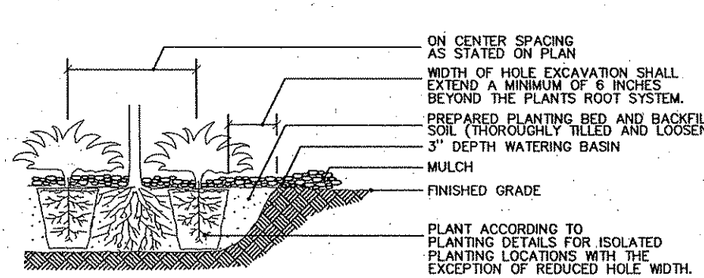
(NEED AND ALTERNATIVE SELECTION SHALL BE DETERMINED BY CONTRACTOR SUBJECT TO APPROVAL BY THE ENGINEER.)

ALTERNATIVE PLANTING DETAILS IN POORLY DRAINED SOIL



NOTE:
1. EXTENDED EXCAVATION AND BACKFILL SOIL TO A POINT DOWNSLOPE EQUAL TO OR LOWER IN ELEVATION THAN THE BOTTOM OF THE HOLE DIRECTLY BENEATH THE PLANT TO INSURE ADEQUATE DRAINAGE IN HEAVY SOILS. GRANULAR SOIL MUST BE ADDED AS BACKFILL IN AREAS OF POOR DRAINAGE.

PLANTING DETAIL FOR STEEP SLOPES



PLANTING DETAIL FOR MASS PLANTING BEDS

GENERAL NOTES
– SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS

PLANTING HOLE AND BED CULTIVATION: ALL ISOLATED TREE PLANTING LOCATIONS AND PLANTING BEDS SHALL BE CULTIVATED BY TILLING TO A MINIMUM DEPTH OF 10". SOIL AMENDMENTS SHALL BE APPLIED DURING CULTIVATION.

BACKFILL SOIL: USE CULTIVATED AND AMENDED SOIL EXCAVATED FROM PLANTING HOLES. REMOVE ALL DEBRIS INCLUDING ROCKS LARGER THAN 3" DIA.

FERTILIZER: SEE SPECIAL PROVISIONS

COMPOST: ___ NONE
_X_ Mn/DOT 3890

MULCH MATERIAL: Mn/DOT 3882 TYPE 6

TREE STAKING: TREE STAKING (ALL SIZES) IS NOT ANTICIPATED, BUT MAY BE NECESSARY TO MAINTAIN TREES IN A PLUMB CONDITION WHERE VANDALISM, SOIL, OR WIND CONDITIONS ARE A PROBLEM OR AS REQUESTED BY THE ENGINEER.

TREE WRAPPING: WRAP OAKS, LINDENS, LOCUSTS, MAPLES, CRABAPPLES, AND MOUNTAIN ASHES PER SPECIAL PROVISIONS.

RODENT PROTECTION: NONE

MASS PLANTINGS: PLANT SPACING OF 8' OR LESS SHALL BE MASS CULTIVATED BY TILLING. PLANT IN STAGGERED ROWS ON THE PERIMETER FIRST, THEN UNIFORMLY FILL IN WITH REMAINING QUANTITY USING TRIANGULAR SPACING, UNLESS SPECIFIED OTHERWISE. PROVIDE 5' RADIUS CLEAR OF SHRUBS AROUND EACH DECIDUOUS TREE AND 8' RADIUS AROUND EACH EVERGREEN TREE. THIS RADIUS (CLEARANCE) SHALL BE MEASURED FROM THE CENTER OF THE TREE TO THE CENTER OF THE SHRUB. NOTIFY ENGINEER OF GROSS PLANT QUANTITY SURPLUS OR DEFICIENCY IMMEDIATELY. PLANT SPACINGS OF 8' OR LESS SHALL BE MASS MULCHED.

PLANTING PLAN: RESPECT STATED DIMENSIONS BEFORE SCALING FROM PLAN.

WATERING GUIDELINES:

PLANT TYPE	AVERAGE AMOUNT OF WATER PER APPLICATION (GALLONS)
MACHINE TRANSPLANTED TREES (3" CALIPER+)	50–100
BALLED & BURLAPPED TREES	20 ±
BARE ROOT TREES	15 ±
BALLED & BURLAPPED SHRUBS	10 ±
BARE ROOT OR CONTAINER SHRUBS	7 ±
WOODY SEEDLINGS	4 ±
HERBACEOUS GROUNDCOVERS AND VINES	3 ±

1) THE WATERING GUIDELINES ASSUME A SOIL CONDITION WITH ADEQUATE BUT NOT EXCESSIVE OR POOR DRAINAGE. WATERING INTERVALS AND AMOUNT OF APPLICATION MUST BE VARIED CONSIDERING PREVAILING SOIL MOISTURE AND WEATHER CONDITIONS THROUGHOUT THE GROWING SEASON. ADEQUATE BUT NOT EXCESSIVE SOIL MOISTURE IN THE ROOT ZONE OF NEW PLANTINGS MUST BE MAINTAINED AT ALL TIMES THROUGHOUT THE GROWING SEASON FOR THE FIRST TWO YEARS FOLLOWING PLANTING. WATERING MAY BE REQUIRED WEEKLY OR INFREQUENTLY. THIS DETERMINATION SHALL BE MADE BY THE CONTRACTOR.

2) THE CONTRACTOR IS ADVISED THAT THE WATERING GUIDELINES ARE NOT REQUIREMENTS OF THE CONTRACT ALTHOUGH FAILURE TO CORRECT WATER DEFICITS BY SUPPLEMENTAL WATERING OR FAILURE TO COMPENSATE FOR EXCESSIVE SOIL MOISTURE AND DRAINAGE PROBLEMS MAY RESULT IN UNACCEPTABLE PLANTS LEADING TO REDUCED OR NO PAYMENT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: RWK | DESIGN BY: TPH
CHKED. BY: TPH | DWG. NAME: 042–LS–12
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LANDSCAPE DETAILS

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
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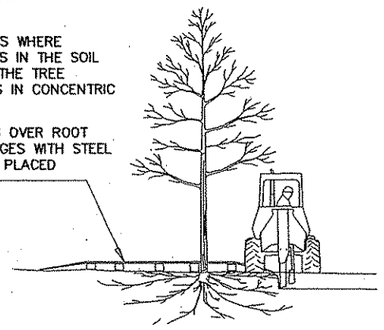
SHEET NO. 446 / 681

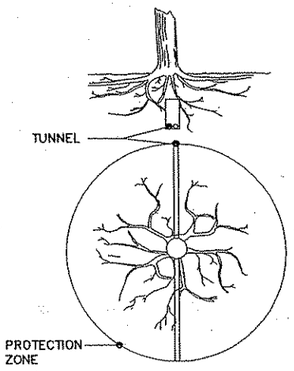
PLOT DATE: Jan 17 10:09am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-LS

NOTE:
WATERING OF ROOT DAMAGED TREES WILL BE REQUIRED TO MAINTAIN ADEQUATE BUT NOT EXCESSIVE SOIL MOISTURE TO A DEPTH OF 18" WITHIN THE UNDISTURBED PORTION OF THE IMPACTED TREE DRIPLINE.

REDUCE COMPACTION ON ROOT SYSTEMS WHERE IT OCCURS BY DRILLING 2" DIAM. HOLES IN THE SOIL TO A DEPTH OF 18". BEGIN 3' FROM THE TREE TRUNK AND CONTINUE AT 2' INTERVALS IN CONCENTRIC RINGS OUT TO THE PROTECTION ZONE.

IF CONSTRUCTION VEHICLES MUST PASS OVER ROOT ZONES, CONSTRUCT ROOT SYSTEM BRIDGES WITH STEEL PLATE SUPPORTED ON WOOD TIMBERS PLACED RADIALLY TO THE TREE TRUNK.





WHEN DESIGNATED IN THE PLAN OR WHEN DIRECTED BY THE ENGINEER, ALL TREE ROOTS AT THE CONSTRUCTION LIMITS SHALL BE CUT CLEANLY (TO THE MAXIMUM DEPTH NECESSARY FOR CONSTRUCTION) WITH A VIBRATORY PLOW OR OTHER APPROVED ROOT CUTTER PRIOR TO ANY EXCAVATION. ROOT ENDS EXPOSED BY EXCAVATION ACTIVITIES SHALL BE IMMEDIATELY COVERED WITH A 6 INCH LAYER OF ADJACENT SOIL BACKFILL, REGRADE OR INSTALL RETAINING WALL AS DESIGNATED IN THE PLAN OR WHEN DIRECTED BY THE ENGINEER.

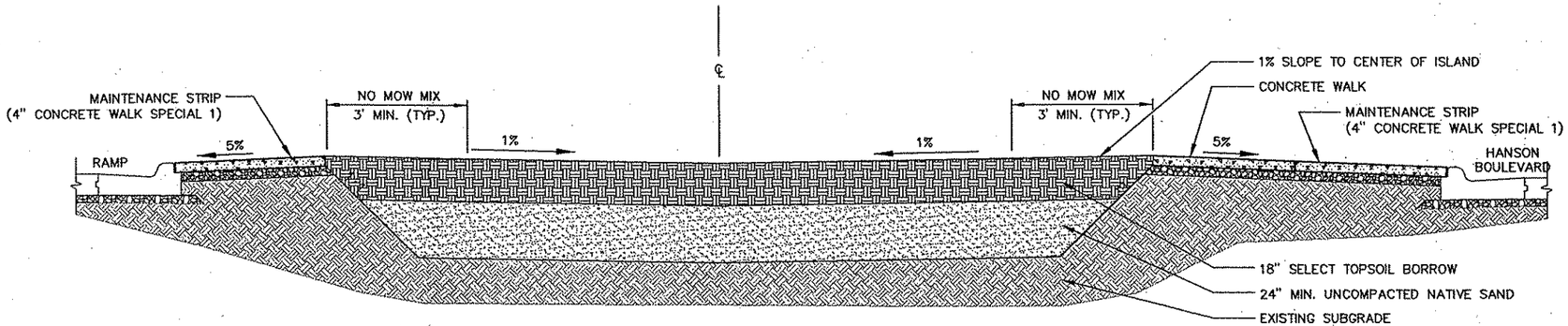
TREE PROTECTION ZONE	
TREE DIAMETER AT 4.5' ABOVE GROUND	MINIMUM DISTANCE FROM FACE OF TREE TRUNK (FEET) *
0"–2"	2
3"–4"	4
5"–9"	6
10"–14"	10
15"–19"	12
19" +	15

* WHEN UTILITY INSTALLATIONS MUST OCCUR WITHIN THE TREE PROTECTION ZONE DEFINED ABOVE, THE CONTRACTOR SHALL BORE (TUNNEL) UNDER ROOTS OF TREES THAT ARE TO BE PRESERVED. THE CONTRACTOR SHALL BORE AT A MINIMUM DEPTH OF 24 INCHES BELOW THE GROUND SURFACE WITHIN THIS ZONE.

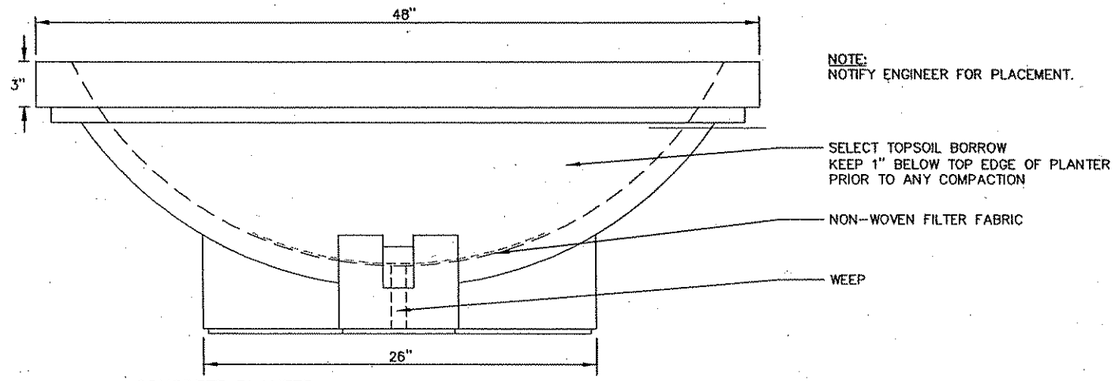
ROOT PROTECTION AND TRENCHING DETAILS

FURNISH AND INSTALL TEMPORARY FENCE AT THE TREES DRIPLINE OR CONSTRUCTION LIMITS AS SPECIFIED PRIOR TO ANY CONSTRUCTION. WHEN POSSIBLE PLACE FENCE 25 FEET BEYOND THE DRIP LINE.

TEMPORARY PROTECTION FENCE PLACEMENT DETAIL



CROSS SECTION OF ISLANDS



CONCRETE PLANTER

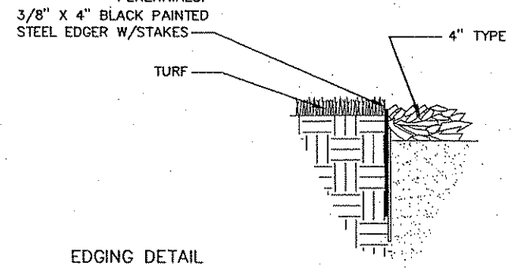
NOTES:
1. ALL LANDSCAPED AREAS NOT INDICATED AS PLANTING BEDS OR MULCH AREAS AS SHOWN ARE TO BE SEEDED, WITHIN LIMITS AS SHOWN ON THE RESTORATION PLAN. NO MOW MIX IS OCCURS WITHIN THE ISLANDS AND SHOWN ON THE LANDSCAPE PLANS.

2. WHERE DISCREPENCIES EXIST BETWEEN LABELED AND SYMBOL QUANTITIES – SYMBOL TAKES PRECEDENCE.

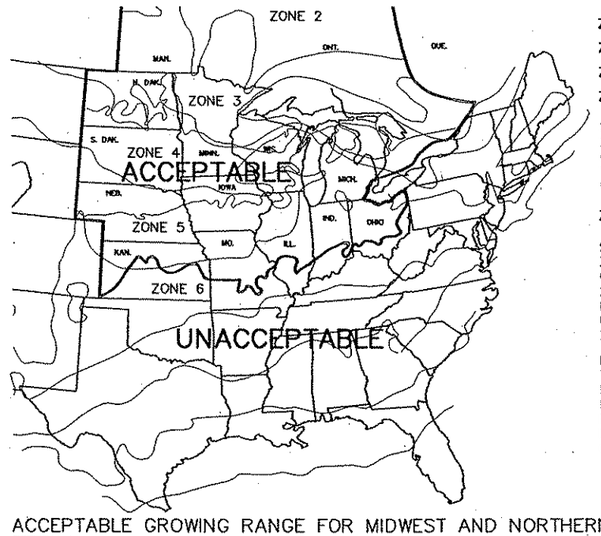
3. ALL PLANTING BEDS TO HAVE A SPADED CUT EDGE.

4. ALL SHRUB BEDS TO BE MULCHED WITH MIN. 4" DEPTH OF SHREDDED HARDWOOD MULCH WITH PREEN OR APPROVED EQUAL APPLICATION PRIOR TO MULCHING. ALL PERENNIAL BEDS TO HAVE 2" DEPTH SHREDDED HARDWOOD MULCH WITHOUT FILTER FABRIC AND WITH PREEN APPLICATION.

5. MIX PEAT WITH NATIVE SOIL AS BACKFILL FOR TREES, SHRUBS AND PERENNIALS.



EDGING DETAIL



ACCEPTABLE GROWING RANGE FOR MIDWEST AND NORTHERN GROWN PLANT STOCK
SOURCE: U.S.D.A. PLANT HARDINESS ZONE MAP

ZONE 1		BELOW –50 F
ZONE 2		–50 to –40
ZONE 3		–40 to –30
ZONE 4		–30 to –20

STATE INSPECTED PLANTS GROWN WITHIN ZONES 1–4 AND THE ACCEPTABLE GROWING RANGE FOR A MINIMUM OF 2 YEARS MAY BE USED ON ALL PROJECTS UNLESS OTHERWISE SPECIFIED.

ZONE 5		–20 to –10

STATE INSPECTED PLANTS GROWN WITHIN ZONE 5 AND THE ACCEPTABLE GROWING RANGE FOR A MINIMUM OF 2 YEARS ARE ALLOWED ONLY ON PROJECTS WITHIN ZONE 4 IN MINNESOTA. UNLESS CERTIFIED AS MINNESOTA ZONE HARDY IN ZONES 3 AND 2.

PLANT STOCK NOT GROWN WITHIN THE THE ACCEPETABLE ZONES AND GROWING RANGE FOR A MINIMUM OF 2 YEARS MAY BE ACCEPTED IF THE SEED SOURCE OR ROOT AND GRAFT STOCK IS CERTIFIED AND DOCUMENTED AS MIDWEST AND NORTHERN GROWN AND MINNESOTA ZONE HARDY.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: RWK | DESIGN BY: TPH
CHKED. BY: TPH | DWG. NAME: 042–LS–13
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

RICHARD W. KOECHLEIN
DATE: 1/8/2007 MN LIC. NO. 26678

TH 10/HANSON BOULEVARD INTERCHANGE
LANDSCAPE DETAILS

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 447 / 681

PLOT DATE: Jan 07 10:09am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-LS-

HANSON - LIGHTING SYSTEM TABULATION						Y
ITEM DESCRIPTION	UNIT	S.P. 0215-59 S.P. 114-010-14	S.P. 02-611-29 S.P. 114-020-28	S.P. 02-678-17 S.P. 114-020-28	C.P. 01-31	TOTAL PROJECT QUANTITIES
REMOVE LIGHT BASE	EACH		1			1
LIGHTING UNIT TYPE 3X-30	EACH		16	12		28
LIGHTING UNIT TYPE 3X-24	EACH		4			4
LIGHTING UNIT TYPE SPECIAL	EACH				2	2
LIGHT BASE DESIGN E	EACH		16	12		28
LIGHT BASE DESIGN SPECIAL	EACH		1			1
3" RIGID STEEL CONDUIT	LIN. FT.		825	295		1,120
2" NON-METALLIC CONDUIT	LIN. FT.		2,170	1,380		3,550
UNDERGROUND WIRE 1 COND NO 6	LIN. FT.		11,655	7,035		18,690
UNDERGROUND WIRE 1 COND NO 1/0	LIN. FT.		508	152		660
SERVICE CABINET SECONDARY TYPE L1	EACH		0.77	0.23		1
EQUIPMENT PAD TYPE B	EACH		0.77	0.23		1
HANDHOLE	EACH		6	6		12
SALVAGE LIGHTING UNIT	EACH		1			1
INSTALL LIGHTING UNIT	EACH		1			1

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS | DESIGN BY: JLK/YF
CHKED. BY: MRA/JFC | DWG. NAME: 042-LT06
DATE: 01/08/07

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Minneapolis, MN 55415
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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE
LIGHTING PLAN
ESTIMATED QUANTITIES AND STANDARD PLATES

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 448 / 681

PLOT DATE: Jan 07 9:42am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\LIGHTING\042-LT06

SALVAGE LIGHTING UNIT

LIGHTING UNIT TO BE REMOVED BY OTHERS

LIGHTING UNIT TO REMAIN INPLACE

INPLACE

INPLACE (PROTECT DURING CONSTRUCTION)

NORTHDALE BLVD

PUG

PUG

PUG

10

15

HANSON BLVD.

MATCHLINE

REMOVED AS PART OF THE NORTH RAMP SIGNAL SYSTEM. SEE SIGNAL PLANS.

RELOCATED BY EXCEL ENERGY (SEE SPECIAL PROVISIONS)

ROBINSON DR

115TH AVE

CONSTRUCTION LIMITS

REMOVED AS PART OF THE SOUTH RAMP SIGNAL SYSTEM. SEE SIGNAL PLANS.

100'
SCALE

MATCHLINE

REMOVED AS PART OF THE NORTH RAMP SIGNAL SYSTEM. SEE SIGNAL PLANS.

REMOVED BY CONEXUS ENERGY

REMOVED BY CONEXUS ENERGY

PGH

PGH

20

25

30

HANSON BLVD.

SALVAGE LIGHTING UNIT
REMOVE LIGHT BASE

NORTHDALE BLVD.

CONSTRUCTION LIMITS

100'
SCALE

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042	
DRAWN BY: JAS	DESIGN BY: JLK
CHKED. BY: AJW, MRA	DWG. NAME: 043-LT05
DATE: 01/08/07	

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Minneapolis, MN 55415
612.370.0700 Tel
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JOHN F. CRAWFORD

DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

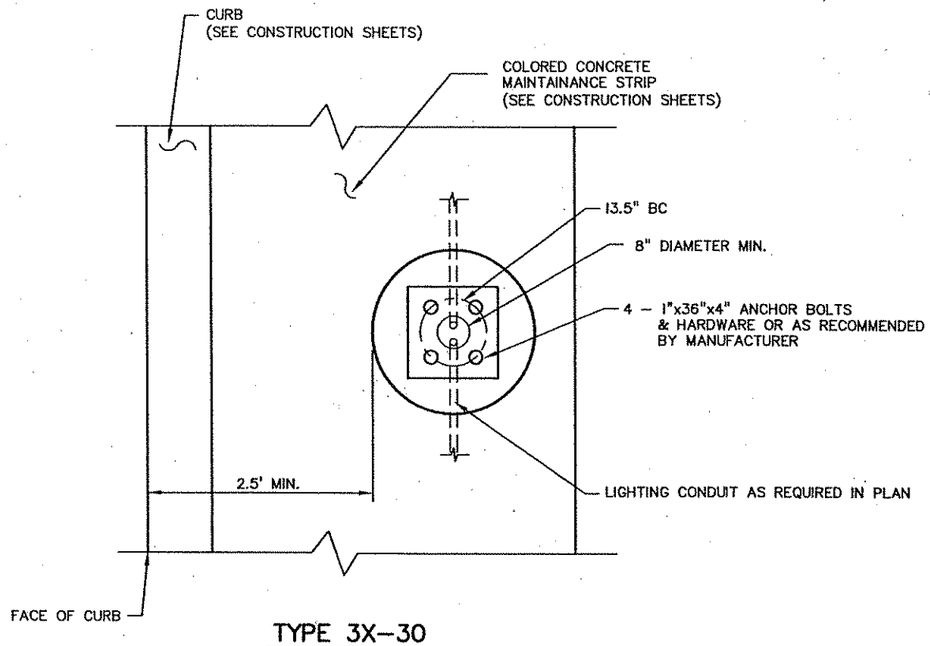
ROBINSON DR. TO NORTHDALE BLVD.

EXISTING LIGHTING REMOVAL PLAN (HANSON)

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 449 / 681

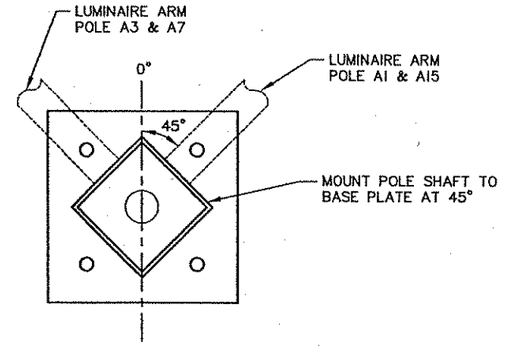
PLOT DATE: Jan 07 11:08am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\LIGHTING\042-LT05



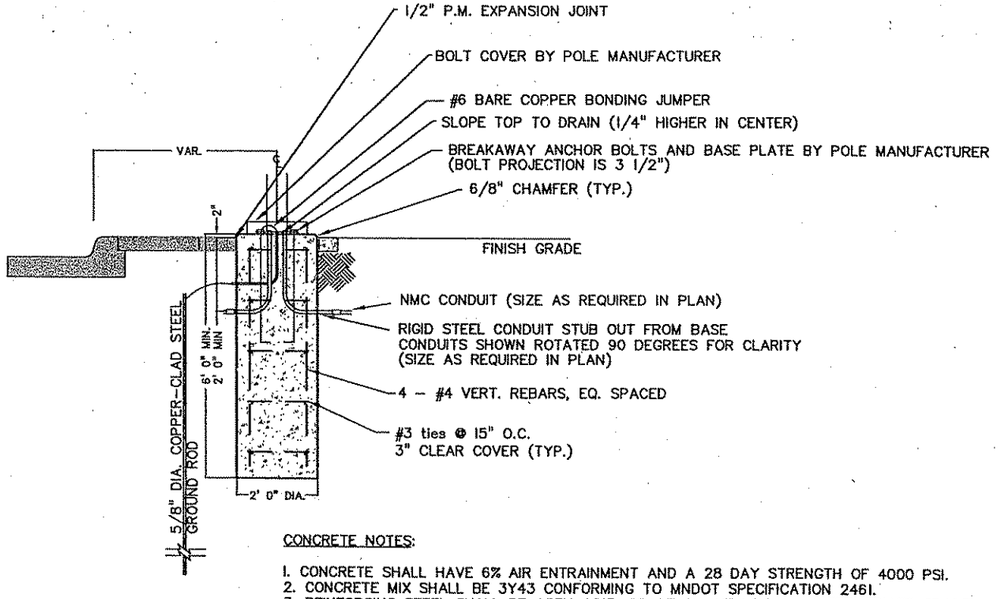
TYPE 3X–30

NOTES:

1. REFER TO BRIDGE PLANS FOR ANCHORAGE AND CONCRETE RAIL BLISTER DETAILS FOR TYPE 3X–24 POLE STANDARDS AND THE SPECIAL LANTERN STYLE LIGHT FIXTURES.
2. ANCHORAGE & CONCRETE RAIL BLISTERS WILL BE FURNISHED, INSTALLED AND PAID FOR UNDER THE BRIDGE CONTRACT. SEE BRIDGE PLANS.



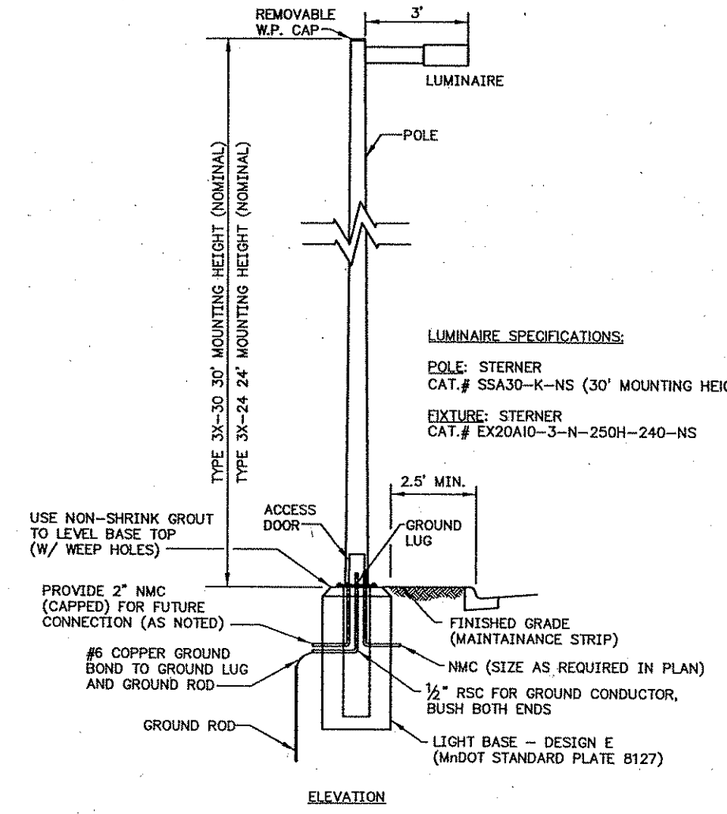
POLE A1, A3, A15 & A17 SPECIAL BASE PLATE (3X–24)



CONCRETE NOTES:

1. CONCRETE SHALL HAVE 6% AIR ENTRAINMENT AND A 28 DAY STRENGTH OF 4000 PSI.
2. CONCRETE MIX SHALL BE 3Y43 CONFORMING TO MNDOT SPECIFICATION 2461.
3. REINFORCING STEEL SHALL BE ASTM A615, GRADE 60, NEW BILLET, INTERMEDIATE GRADE, DEFORMED W/ 60,000 PSI YIELD STRENGTH.

TYPICAL SECTION AT LIGHT FOUNDATION (TYPE 3X–30 STANDARDS)



ELEVATION

LIGHT POLE AND BASE DETAIL

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: JAS | DESIGN BY: JLK
CHKED. BY: AJW, MRA | DWG. NAME: 043–LT02
DATE: 01/08/07

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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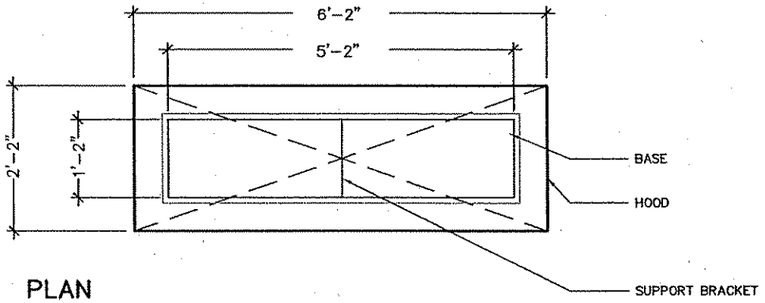
JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25087

TH 10/HANSON BOULEVARD INTERCHANGE
LIGHTING DETAILS
LIGHT UNIT AND FOUNDATION (HANSON)

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 450 / 681

PLOT DATE: Jan 2007 11:09am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\LIGHTING\042-LT02



PLAN

NOTES:
LUMINAIRE SPECIFICATIONS:

BASE: ALL ALUMINUM CONSTRUCTION, WATER TIGHT AND WELDED AT CORNERS

DIFFUSER PANELS: AMBER MICA GLASS PANELS WITH CLEAR TEMPERED GLASS OVERLAY

LAMP COVER: FROSTED GLASS

HOOD: ALL ALUMINUM CONSTRUCTION, ACCESS TO BE TOOLESS AND LOCKABLE.

BASE BOLTS: PROVIDE S.S. THREADED RODS WITH (2) LEVELING NUTS PER ROD. GASKET NUTS TO PROVIDE WEATHER TIGHT SEAL

ELECTRICAL SPECIFICATIONS:

UL LISTED AS A UNIT

BALLAST: 70 WATT/ 240 VOLT CORE

LAMPHOLDER: MOGUL BASE PORCELAIN WITH VENTS FOR LAMP HEAT RELEASE

LAMP: 70 WATT METAL HALIDE, BY OTHERS

FINISH SPECIFICATIONS:

FINISH ON EXTERIOR SHALL BE SHOP-APPLIED, ELECTROSTATICALLY-APPLIED, BAKED ACRYLIC FINISH, RAL 8017, DARK BROWN. PAINT ON INTERIOR SHALL BE HIGH REFLECTIVE WHITE. CLEAN ALUM. PRIOR TO PAINTING

NOTES:

HOUSING & HOOD TO BE ALL ALUMINUM CONSTRUCTION, .08 MIN. ALL THICKNESS, WATER TIGHT & WELDED AT CORNERS

UL LISTED AS A COMPLETE UNIT

240/480 VOLT

PROVIDE EVEN GLOW THROUGHOUT LANTERN

ACCESS TO BALAST & LAMP THROUGH TOP TO BE TOOLESS AND LOCKABLE. ATTACH SAFETY TETHER TO HOOD & HOUSING WALL

70 WATT METAL HALIDE LAMPS

GLASS PANELS ALL 4 SIDES

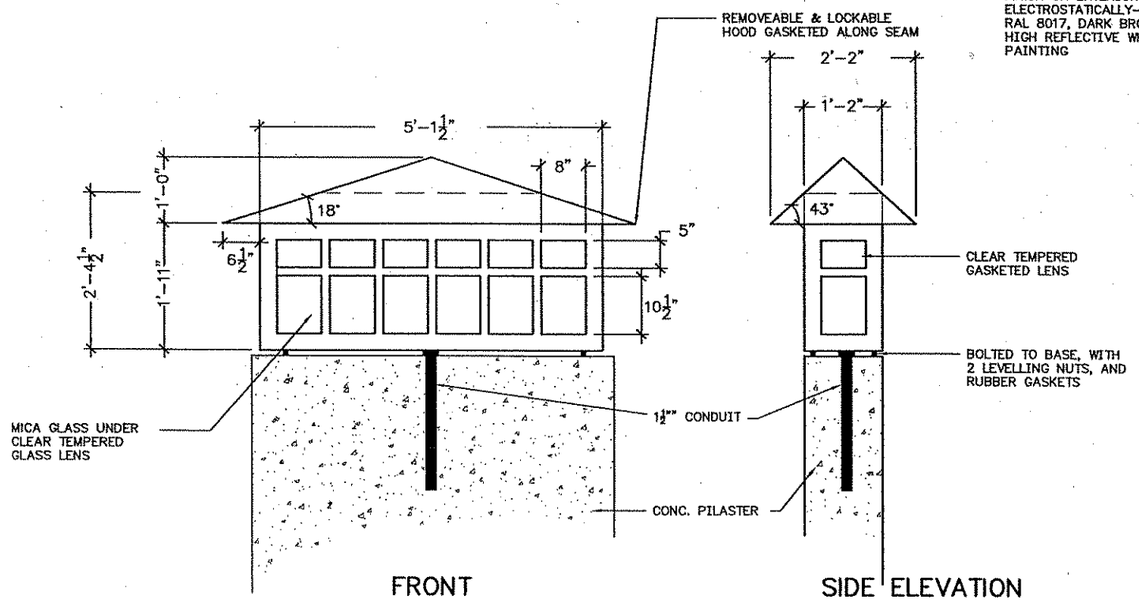
MOUNT ON CONCRETE PILASTER. VERIFY PILASTER WIDTHS PRIOR TO FABRICATION

DRILL AND SET THREADED RODS AT 4 CORNERS OF LIGHT BASE. EPOXY RODS IN PILASTER

SEE THE SPECIAL PROVISIONS IN THE TECHNICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION

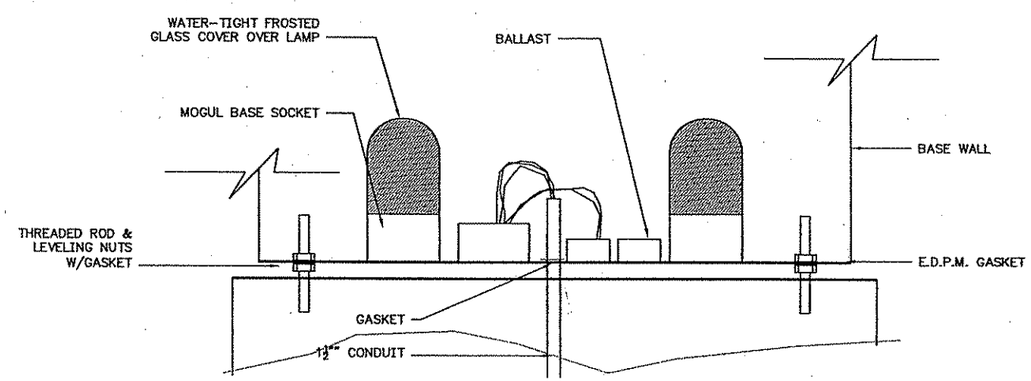
THIS DRAWING IS INTENDED TO PROVIDE AESTHETIC AND BASIC TECHNICAL INFORMATION. IT IS THE RESPONSIBILITY OF THE MANUFACTURER TO PROVIDE THE DESIGN AND TECHNICAL INFORMATION IN THE SHOP DRAWINGS TO BE APPROVED BY THE ENGINEER

PROVIDE IN WRITING A 5 YEAR WARRANTY ON LIGHTING UNIT INCLUDING PAINT



FRONT ELEVATION

SIDE ELEVATION



SIDE ELEVATION

LIGHTING UNIT TYPE - SPECIAL

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: TPH | DESIGN BY: TPH
CHKED. BY: AJW, MRA | DWG. NAME: 043-LT07
DATE: 01/08/07

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

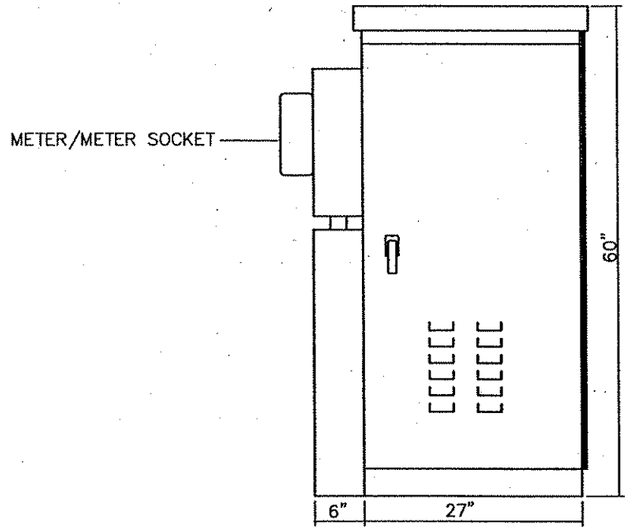
TH 10/HANSON BOULEVARD INTERCHANGE

LANTERN STYLE LIGHT (SPECIAL) DETAILS (HANSON)

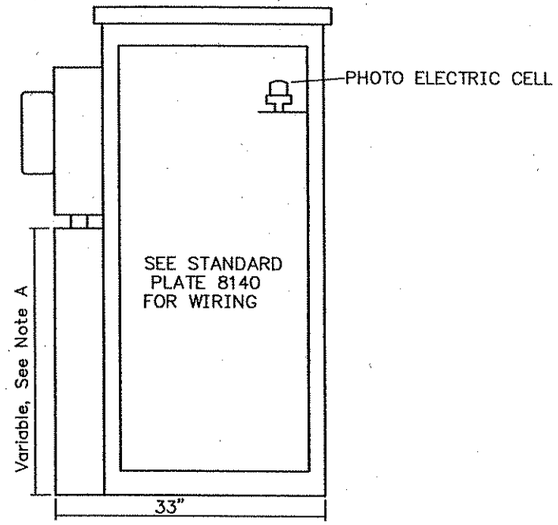
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

PLOT DATE: Jo 007 11:10am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\LIGHTING\042-LTO

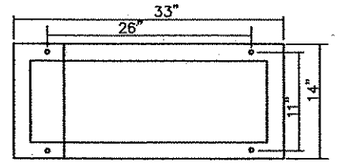
EXTERNAL



INTERNAL



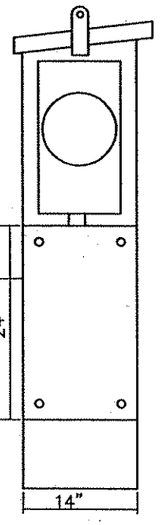
PAD MOUNTING PATTERN



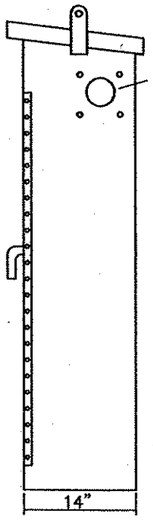
NOTE A: HEIGHT OF COMPARTMENT IS APPROXIMATELY 33". MAY VARY DEPENDING UPON SIZE OF METER SOCKET.

SIDE VIEWS

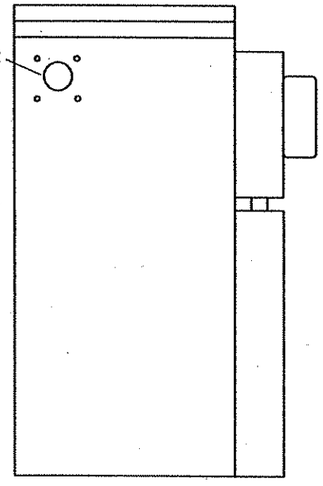
LEFT

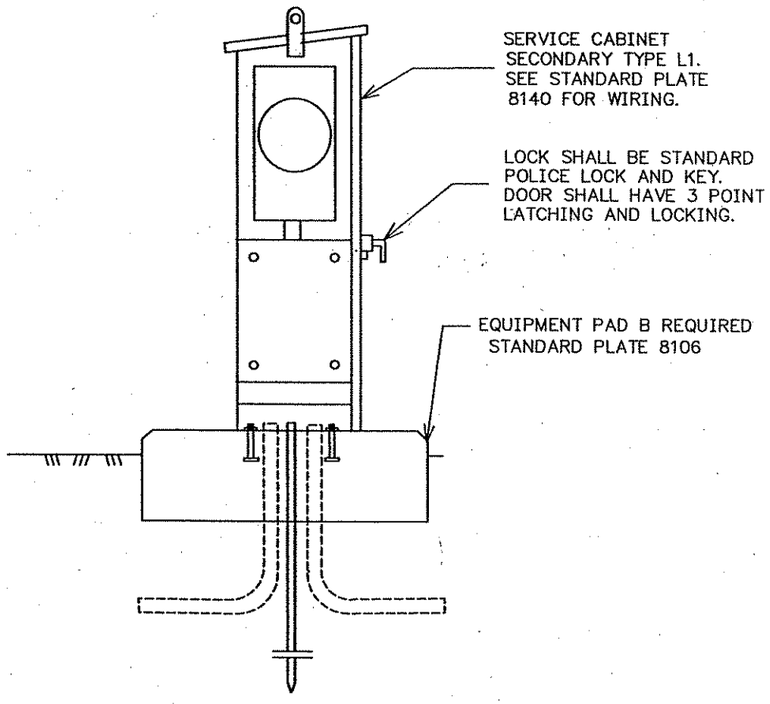


RIGHT



BACK VIEW





LIGHTING SERVICE CABINET

SERVICE CABINET SECONDARY TYPE L1

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS | DESIGN BY: JLK
CHKED. BY: AJW, MRA | DWG. NAME: 043-LT03
DATE: 01/08/07

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE
LIGHTING DETAILS
L1 LIGHTING SERVICE CABINET
(HANSON)

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 452
681

PLOT DATE: Jan 2007 11:10am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\LIGHTING\042-LT02

SERVICE CABINET SECONDARY L1

4' X 15" LANTERN STYLE LIGHT ON CONCRETE PILASTER (SPECIAL)

250 WATT MH LUMINAIRE ON STREETLIGHT POLE (TYPE 3X-30)

250 WATT MH LUMINAIRE ON STREETLIGHT POLE (TYPE 3X-24)

INSTALL SALVAGED LIGHTING UNIT

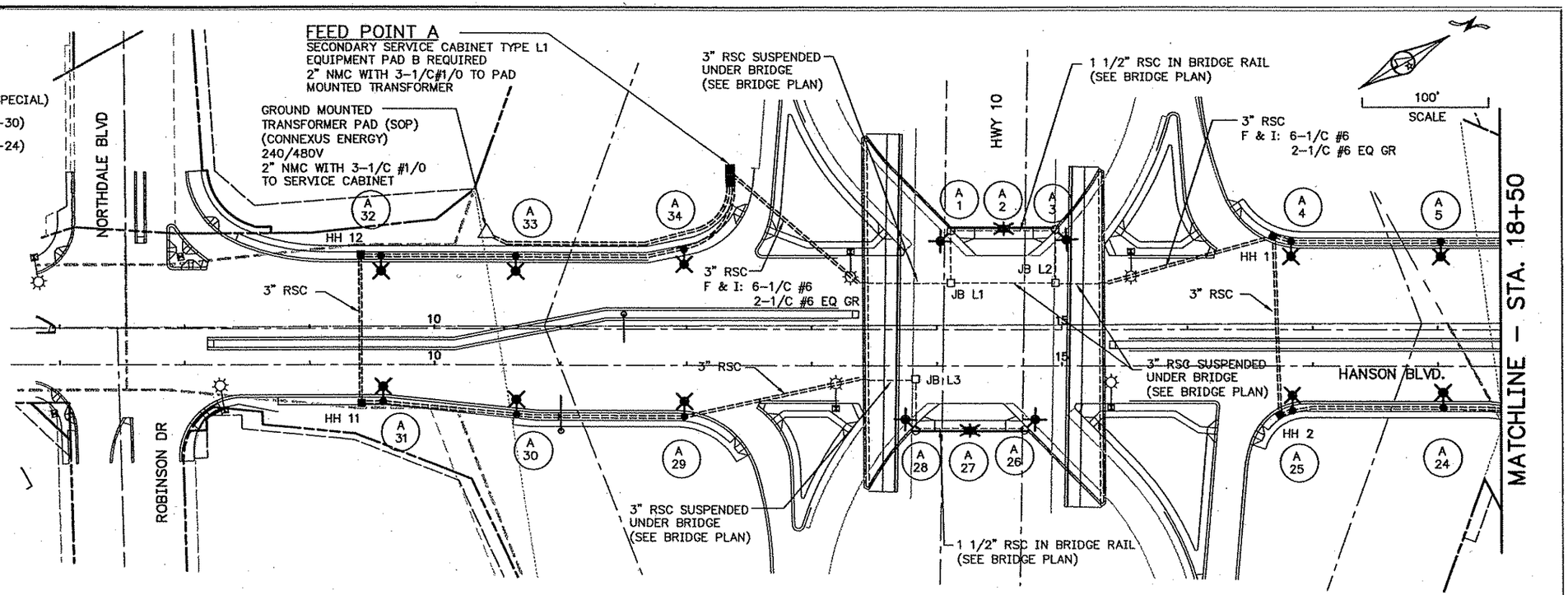
LUNINAIRE ON SIGNAL SYSTEM

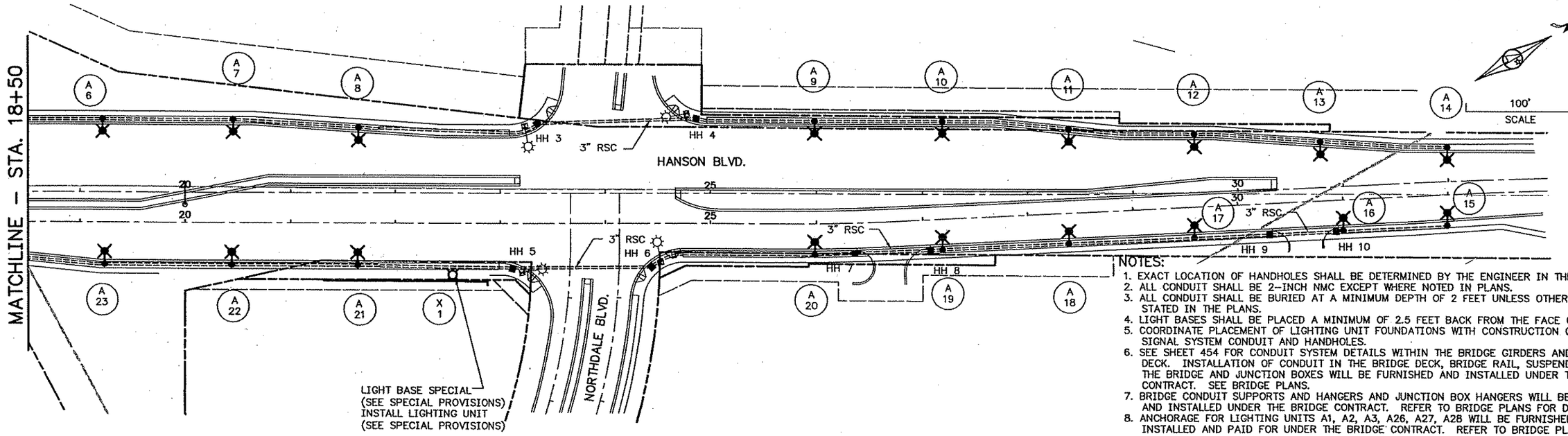
FURNISH & INSTALL 2-INCH NMC CONDUIT (3-INCH RSC CONDUIT UNDER ROADWAY) (F & I: 3-1/C#6, 1-1/C#6 EQ GR UNLESS OTHERWISE NOTED)

1 1/2" RSC IN BRIDGE DECK & BRIDGE RAIL
3" RSC SUSPENDED UNDER BRIDGE
SEE BRIDGE PLANS.
(F & I: SEE SHEET 454)

FURNISH & INSTALL HANDHOLE/JUNCTION BOX

HANDHOLE/JUNCTION BOX (SEE BRIDGE PLANS)





NOTES:

1. EXACT LOCATION OF HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. ALL CONDUIT SHALL BE 2-INCH NMC EXCEPT WHERE NOTED IN PLANS.
3. ALL CONDUIT SHALL BE BURIED AT A MINIMUM DEPTH OF 2 FEET UNLESS OTHERWISE STATED IN THE PLANS.
4. LIGHT BASES SHALL BE PLACED A MINIMUM OF 2.5 FEET BACK FROM THE FACE OF CURB.
5. COORDINATE PLACEMENT OF LIGHTING UNIT FOUNDATIONS WITH CONSTRUCTION OF SIGNAL SYSTEM CONDUIT AND HANDHOLES.
6. SEE SHEET 454 FOR CONDUIT SYSTEM DETAILS WITHIN THE BRIDGE GIRDERS AND BRIDGE DECK. INSTALLATION OF CONDUIT IN THE BRIDGE DECK, BRIDGE RAIL, SUSPENDED UNDER THE BRIDGE AND JUNCTION BOXES WILL BE FURNISHED AND INSTALLED UNDER THE BRIDGE CONTRACT. SEE BRIDGE PLANS.
7. BRIDGE CONDUIT SUPPORTS AND HANGERS AND JUNCTION BOX HANGERS WILL BE FURNISHED AND INSTALLED UNDER THE BRIDGE CONTRACT. REFER TO BRIDGE PLANS FOR DETAILS.
8. ANCHORAGE FOR LIGHTING UNITS A1, A2, A3, A26, A27, A28 WILL BE FURNISHED, INSTALLED AND PAID FOR UNDER THE BRIDGE CONTRACT. REFER TO BRIDGE PLANS FOR ANCHORAGE & CONCRETE BLISTER DETAILS. THE LIGHTING CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING & INSTALLING THE POLE & LIGHT FIXTURES.
9. SEE SPECIAL PROVISIONS FOR PAINTING OF THE LIGHTING SYSTEM.
10. SEE SHEET 450 FOR BASE PLATE REQUIREMENTS FOR POLES A1, A3, A26 & A28.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL UTILITIES PRIOR TO COMMENCING WORK.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS | DESIGN BY: JLK/YF
CHKED. BY: MRA/JFC | DWG. NAME: 042-LT01
DATE: 01/08/07

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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JOHN F. CRAWFORD

DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

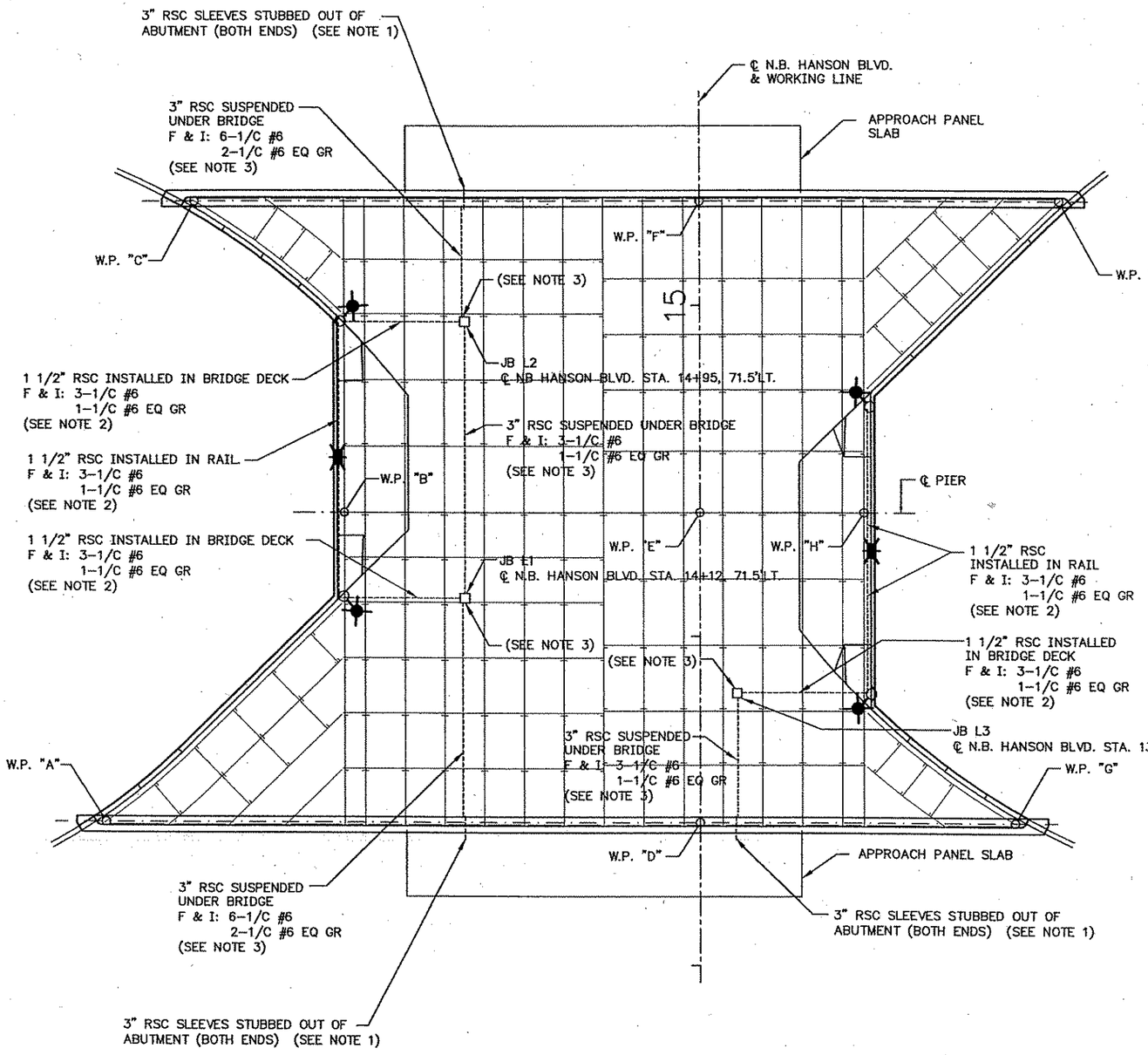
ROBINSON DR. TO NORTHDALE BLVD.

LIGHTING PLAN (HANSON)
STATION 4+00 TO STATION 33+00

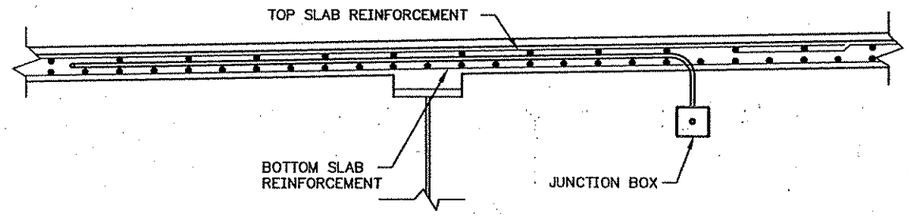
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 453 / 681

PLOT DATE: Jan 07 1:07pm DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\LIGHTING\042-LT01



- SERVICE CABINET SECONDARY L1
- 4' X 15" LANTERN STYLE LIGHT ON CONCRETE PILASTER (SPECIAL)
- 250 WATT MH LUMINAIRE ON STREETLIGHT POLE (TYPE 3X-30)
- 250 WATT MH LUMINAIRE ON STREETLIGHT POLE (TYPE 3X-24)
- REINSTALL SALVAGED LIGHT STANDARD & LUMINAIRE
- LUNINAIRE ON SIGNAL SYSTEM
- ------ 1 1/2" RSC IN BRIDGE DECK & BRIDGE RAIL 3" RSC SUSPENDED UNDER BRIDGE SEE BRIDGE PLANS.
- ■ FURNISH & INSTALL HANDHOLE/JUNCTION BOX
- □ HANDHOLE/JUNCTION BOX (SEE BRIDGE PLAN)



PART. TRANSVERSE SECTION

(NO SCALE)

NOTES:

1. CONDUIT SLEEVES FURNISHED AND INSTALLED IN THE BRIDGE ABUTMENTS ARE WORK ITEMS PAID FOR UNDER THE BRIDGE CONTRACT. REFER TO BRIDGE PLANS FOR MORE DETAILS AND LOCATIONS.
2. CONDUIT INSTALLED IN BRIDGE DECK & BRIDGE RAIL SHALL BE STUBBED OUT AND CAPPED BELOW THE DECK AT JUNCTION BOX LOCATIONS AND ABOVE THE RAIL AT POLE LOCATIONS. FURNISHING AND INSTALLING CONDUITS WITHIN BRIDGE DECK & BRIDGE RAIL ARE WORK ITEMS PAID FOR UNDER THE BRIDGE CONTRACT. REFER TO BRIDGE PLANS FOR DETAILS AND LOCATIONS.
3. FURNISHING AND INSTALLING THE SUSPENDED CONDUIT AND JUNCTION BOXES SHALL BE WORK ITEMS PAID FOR UNDER THE BRIDGE CONTRACT. REFER TO BRIDGE PLANS FOR DETAILS.
4. SUSPENDED CONDUIT SUPPORTS, HANGERS AND JUNCTION BOX HANGERS WILL BE FURNISHED AND INSTALLED UNDER THE BRIDGE CONTRACT. REFER TO BRIDGE PLANS FOR DETAILS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS
DESIGN BY: JLK
CHKED. BY: AJW, MRA
DWG. NAME: 042-LT08
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

JOHN F. CRAWFORD

DATE: 01/08/07 MN LIC. NO. 25087

TH 10/HANSON BOULEVARD INTERCHANGE

LIGHTING SYSTEM
CONDUIT SYSTEM DETAILS
(HANSON)

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 454 / 681

PLOT DATE: Jan 007 1:19pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\LIGHTING\042-LT0

NOTES:

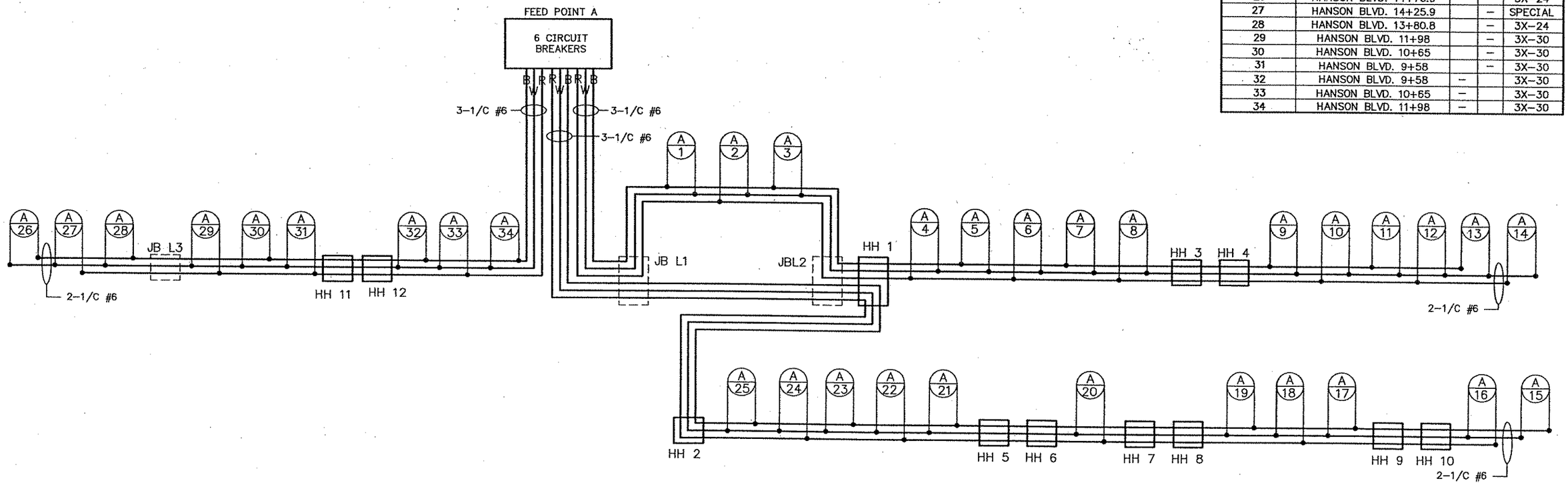
1. "B" AND "R" DENOTE CURRENT CARRYING CONDUCTORS. "W" DENOTES THE NETRUAL CONDUCTOR.
2. (A / XX) INDICATES STREET LIGHTING LUMINAIRE.
3. 1/C#6 GROUND REQUIRED IN ALL CONDUIT (NOT SHOWN IN WIRING DIAGRAM)

FEED POINT X

LIGHT STANDARDS & BASES				
NUMBER	STATION	LT	RT	TYPE
1	HANSON BLVD. 22+55		79'	RELOCATE

FEED POINT A

LIGHT STANDARDS & BASES				
NUMBER	STATION	LT	RT	TYPE
1	HANSON BLVD. 14+13.7	–		3X–24
2	HANSON BLVD. 14+53.7	–		SPECIAL
3	HANSON BLVD. 14+93.9	–		3X–24
4	HANSON BLVD. 16+83	–		3X–30
5	HANSON BLVD. 18+03	–		3X–30
6	HANSON BLVD. 19+24	–		3X–30
7	HANSON BLVD. 20+44	–		3X–30
8	HANSON BLVD. 21+64	–		3X–30
9	HANSON BLVD. 25+97	–		3X–30
10	HANSON BLVD. 27+17	–		3X–30
11	HANSON BLVD. 28+37	–		3X–30
12	HANSON BLVD. 29+57	–		3X–30
13	HANSON BLVD. 30+77	–		3X–30
14	HANSON BLVD. 31+97	–		3X–30
15	HANSON BLVD. 31+97		–	3X–30
16	HANSON BLVD. 31+00		–	3X–30
17	HANSON BLVD. 29+57		–	3X–30
18	HANSON BLVD. 28+37		–	3X–30
19	HANSON BLVD. 27+17		–	3X–30
20	HANSON BLVD. 25+97		–	3X–30
21	HANSON BLVD. 21+64		–	3X–30
22	HANSON BLVD. 20+44		–	3X–30
23	HANSON BLVD. 19+24		–	3X–30
24	HANSON BLVD. 18+03		–	3X–30
25	HANSON BLVD. 16+83		–	3X–30
26	HANSON BLVD. 14+70.9		–	3X–24
27	HANSON BLVD. 14+25.9		–	SPECIAL
28	HANSON BLVD. 13+80.8		–	3X–24
29	HANSON BLVD. 11+98		–	3X–30
30	HANSON BLVD. 10+65		–	3X–30
31	HANSON BLVD. 9+58		–	3X–30
32	HANSON BLVD. 9+58	–		3X–30
33	HANSON BLVD. 10+65	–		3X–30
34	HANSON BLVD. 11+98	–		3X–30



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: JAS | DESIGN BY: JLK/YF
CHKED. BY: MRA/JFC | DWG. NAME: 042–LT04
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1578 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

LIGHTING PLAN

LIGHT STANDARDS & BASES AND WIRING DIAGRAM (HANSON)

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

PLOT DATE: Jq 007 1:25pm DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\LIGHTING\042-LT0

TAB AL	STATEMENT OF ESTIMATED QUANTITIES	
ITEM	UNIT	S.P. 0215-59 ESTIMATED QUANTITIES
LIGHTING UNIT TYPE VM-40	EACH	8
LIGHTING UNIT TYPE VM-45	EACH	10
LIGHTING UNIT TYPE VMD-45	EACH	2
LIGHT BASE DESIGN E	EACH	8
LIGHT BASE DESIGN H	EACH	12
2" RIGID STEEL CONDUIT	LIN. FT.	220
3" NON-METALLIC CONDUIT	LIN. FT.	475
3" NON-METALLIC CONDUIT (DIRECTIONAL BORE)	LIN. FT.	200
UNDERGROUND WIRE 1 CONDUCTOR NO. 2	LIN. FT.	660
ARMORED CABLE 4 COND. NO. 4	LIN. FT.	10800
SERVICE CABINET SECONDARY TYPE L1	EACH	1
EQUIPMENT PAD B	EACH	1
HANDHOLE	EACH	8

I HEREBY CERTIFY THAT SHEETS 456 TO 461 HAVE BEEN PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

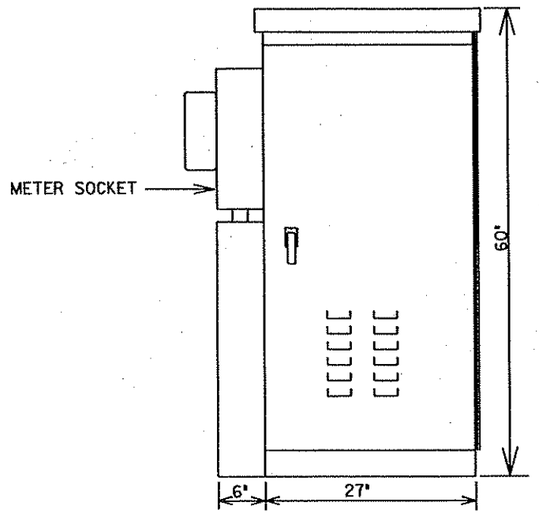
Michael P. Gerbensky
MICHAEL GERBENSKY

DATE 1/8/2007 LIC. NO. 19863

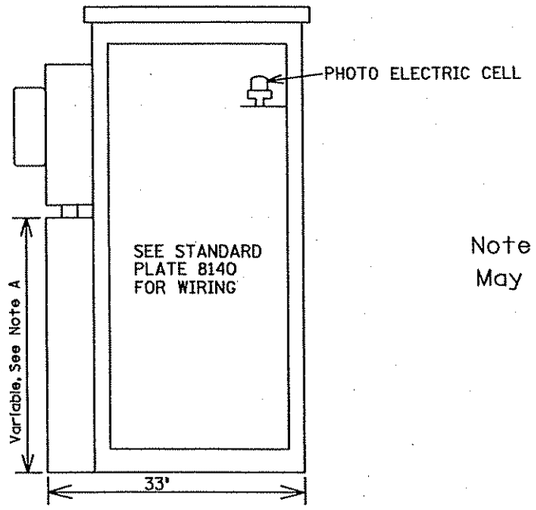
LIGHTING PLAN (T.H. 10)

ESTIMATED QUANTITIES
STANDARD PLATES

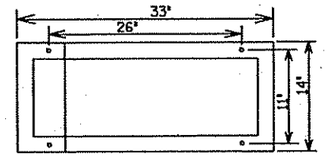
EXTERNAL



INTERNAL



PAD MOUNTING PATTERN



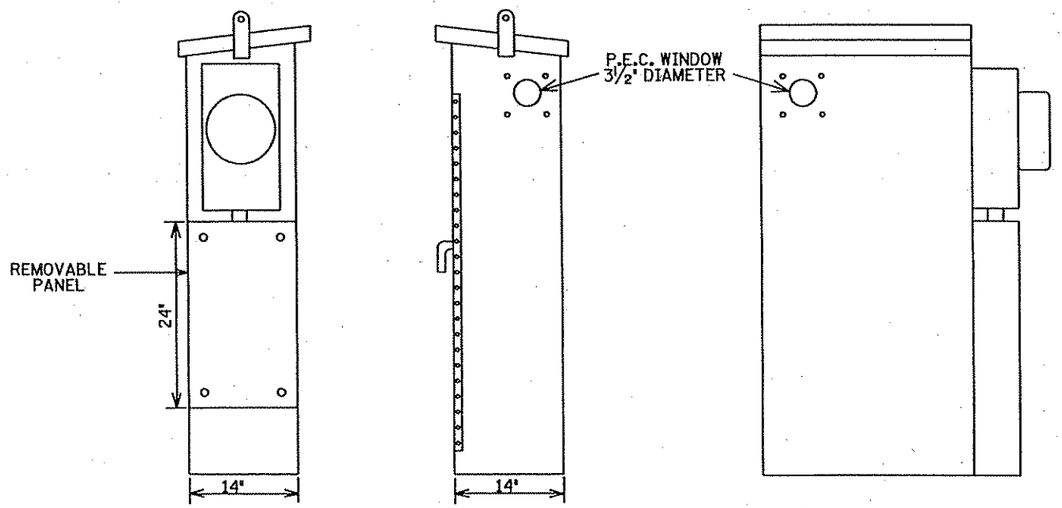
Note A: Height of compartment is approximately 33". May vary depending upon size of meter socket.

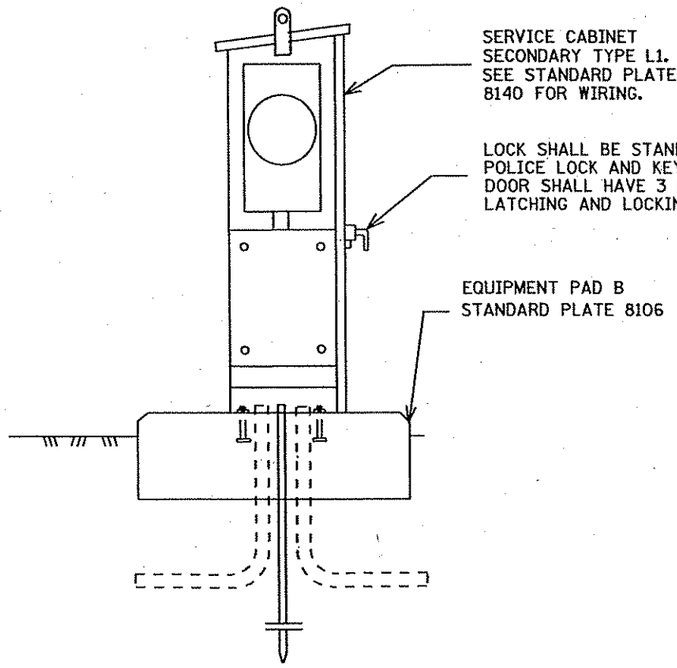
SIDE VIEWS

LEFT

RIGHT

BACK VIEW





LIGHTING SERVICE CABINET

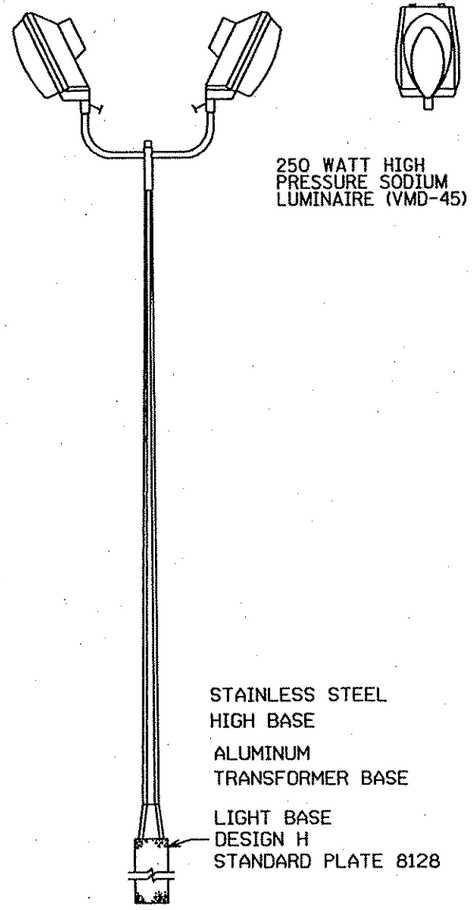
SERVICE CABINET SECONDARY TYPE L1

LIGHTING PLAN (T.H. 10)

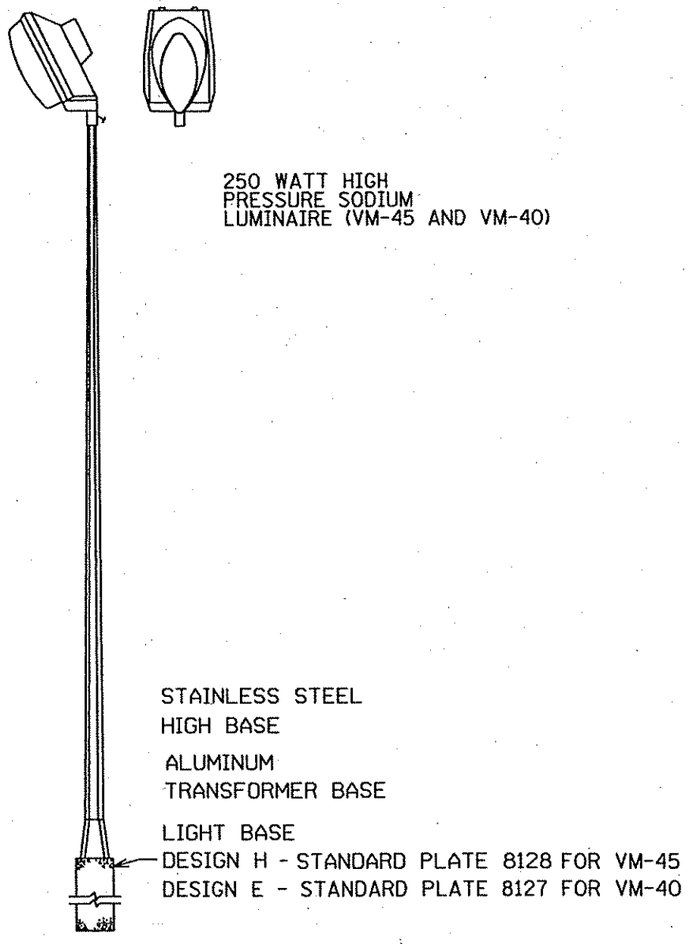
LIGHTING DETAILS

CERTIFIED BY Michael Pankratz 9/13/06 LICENSED PROFESSIONAL ENGINEER LIC. NO. 19863

State Proj. No. 0215-59 02-611-29 114-020-28 114-010-14 (TH 10) Sheet No. 457 of 681 Sheets



LIGHTING UNIT TYPE VMD-45
(BREAKAWAY)



LIGHTING UNIT TYPE VM-40 & VM-45
(BREAKAWAY)

LAMPS

EYE HIGH PRESSURE SODIUM IGNITRON EN
PRODUCT DESCRIPTION- LU250/I/EN

VERTICAL MOUNT LUMINAIRES

G.E. TURNPIKE REGULATED BALLAST FOR
240 VOLTS, CAT. NO. RPFS25SOA1GLN4GRS

AMERICAN ELECTRIC INTERSTATE II, REGULATED
BALLAST FOR 240 VOLTS, CAT. NO. 77525CAMT2R3SGNROPTLSS

HOLOPHANE MONGOOSE OFF-SET LIGHTING WITH CONSTANT WATTAGE
FOR 240 VOLTS CAT. NO. MV250HPMTWRVG4

LAMPS SHALL BE 250 WATT HIGH PRESSURE SODIUM

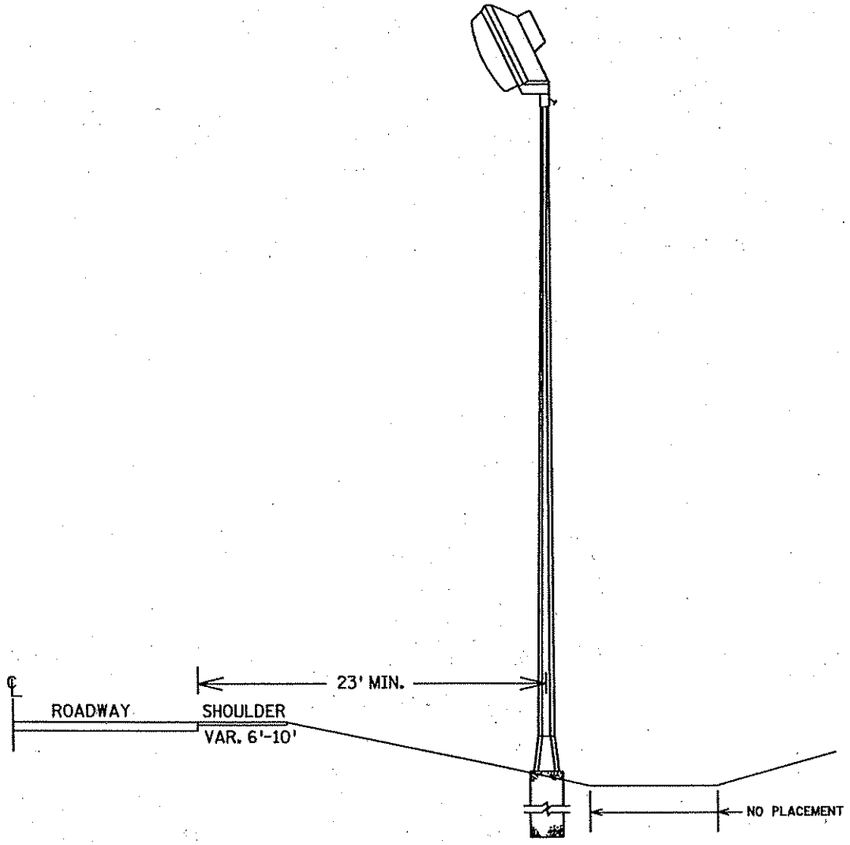
LUMINAIRES SHALL HAVE A TYPE III
SEMI-CUTOFF DISTRIBUTION

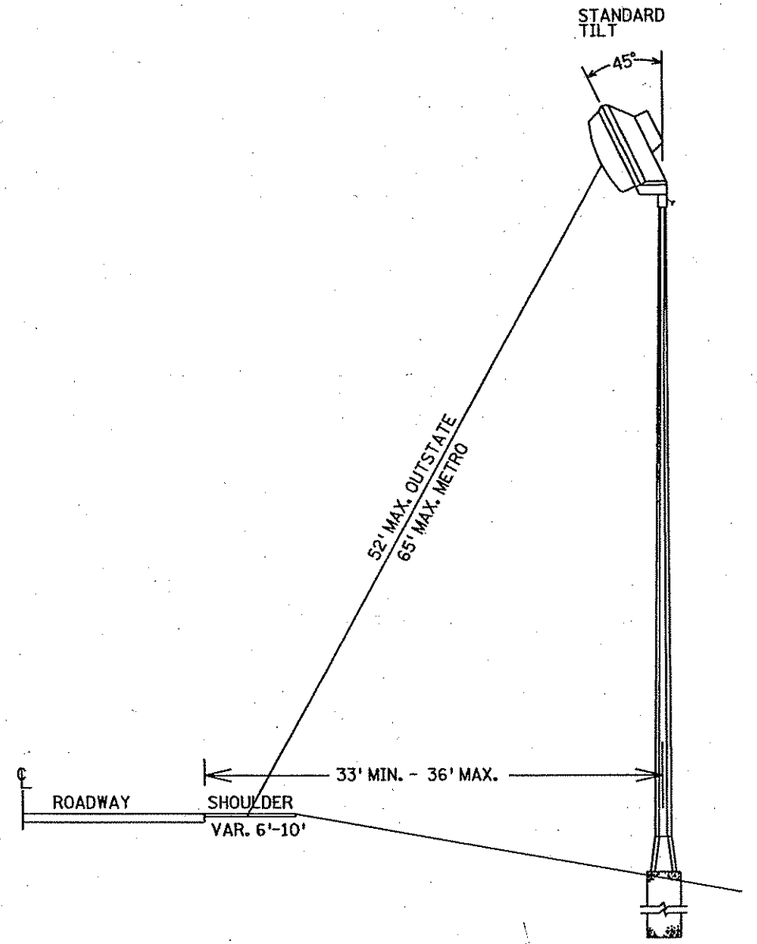
LIGHTING PLAN (T.H. 10)

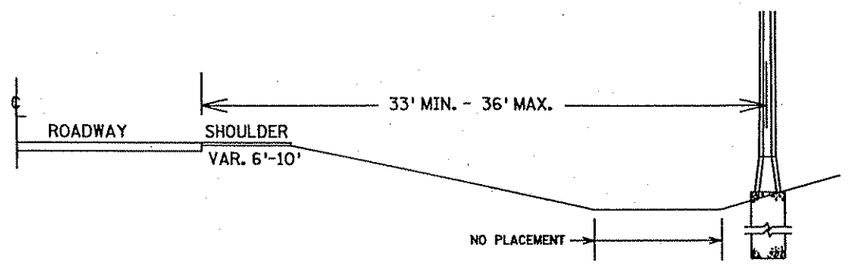
LIGHTING DETAILS

CERTIFIED BY [signature] 9/13/06 LICENSED PROFESSIONAL ENGINEER LIC. NO. 19863

State Proj. No. 0215-59 02-611-29 114-020-28 114-010-14 (TH 10) Sheet No. 458 of 681 Sheets







USE THE MAXIMUM DISTANCE WHENEVER POSSIBLE,
IF THE MINIMUM DISTANCE CANNOT BE OBTAINED
CONTACT THE DISTRICT/DIVISION TRAFFIC ENGINEER
LIGHT BASES SHALL BE INSTALLED IN ACCORDANCE
WITH 2545.3F2.
DISTANCES SHALL BE MEASURED FROM THE
EDGE OF DRIVING LANE OR TURN LANE.

PLACEMENT OF LIGHTING UNITS TYPE VM

LIGHTING PLAN (T.H. 10)

LIGHTING DETAILS

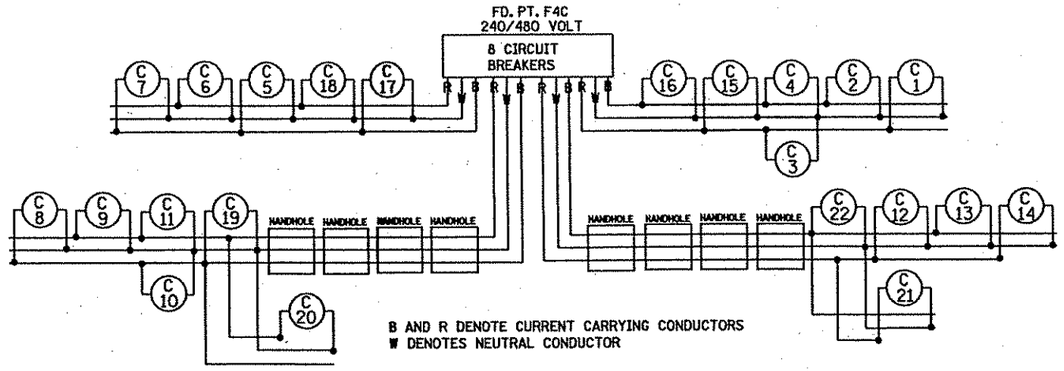
CERTIFIED BY Michael P. Schenk 9/13/06 LICENSED PROFESSIONAL ENGINEER LIC. NO. 19863

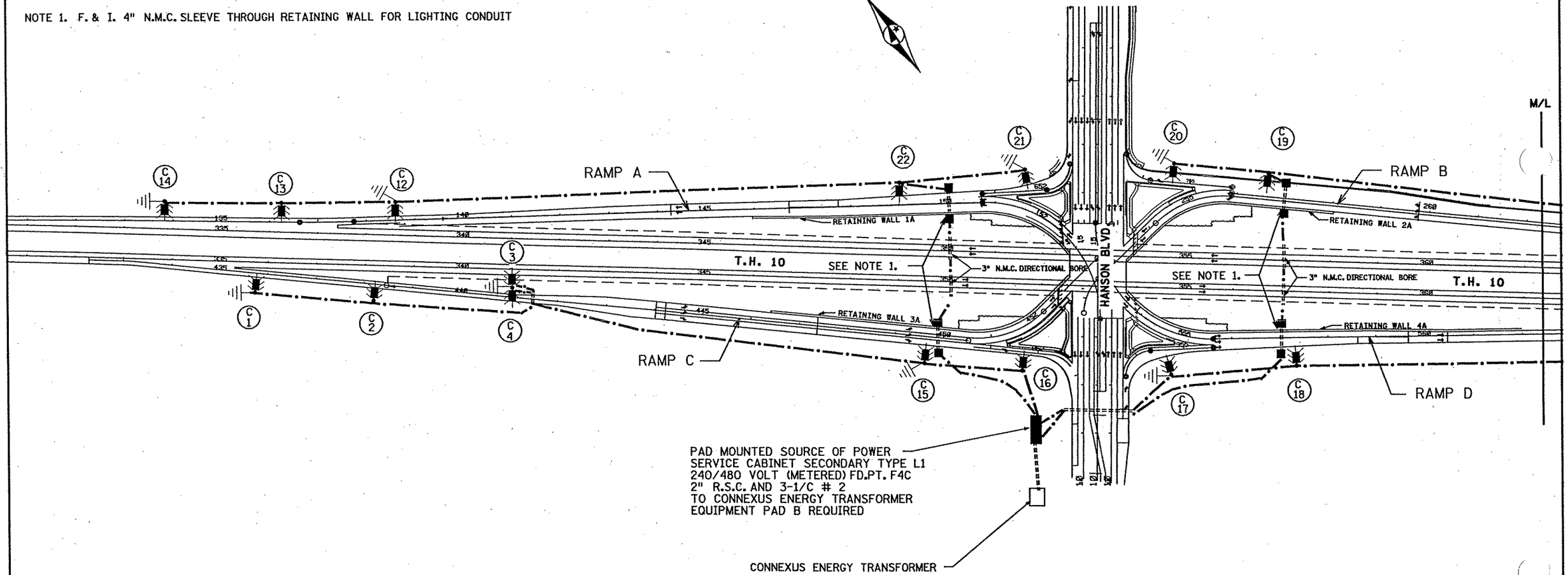
State Proj. No. 0215-59 02-611-29 114-020-28 114-010-14 (TH 10) Sheet No. 459 of 681 Sheets

LEGEND

- PAD MOUNTED SOURCE OF POWER (240/480 VOLT)
- 3" NON-METALLIC CONDUIT EXCEPT AS NOTED OTHERWISE
- DIRECT BURIED POWER CABLE 4 CONDUCTOR NO. 4 AWG ARMORED CABLE SPEC. NO. 3815
- 250 WATT HIGH PRESSURE SODIUM LIGHTING UNIT
- 250 WATT HIGH PRESSURE SODIUM TWIN MAST ARM LIGHTING UNIT
- PERMANENT GROUND ROD (25 OHMS OR LESS)
- HANDHOLE

NOTE 1. F. & I. 4" N.M.C. SLEEVE THROUGH RETAINING WALL FOR LIGHTING CONDUIT





0' 100' 200'
SCALE

LIGHTING PLAN (T.H. 10)

LIGHTING LAYOUT

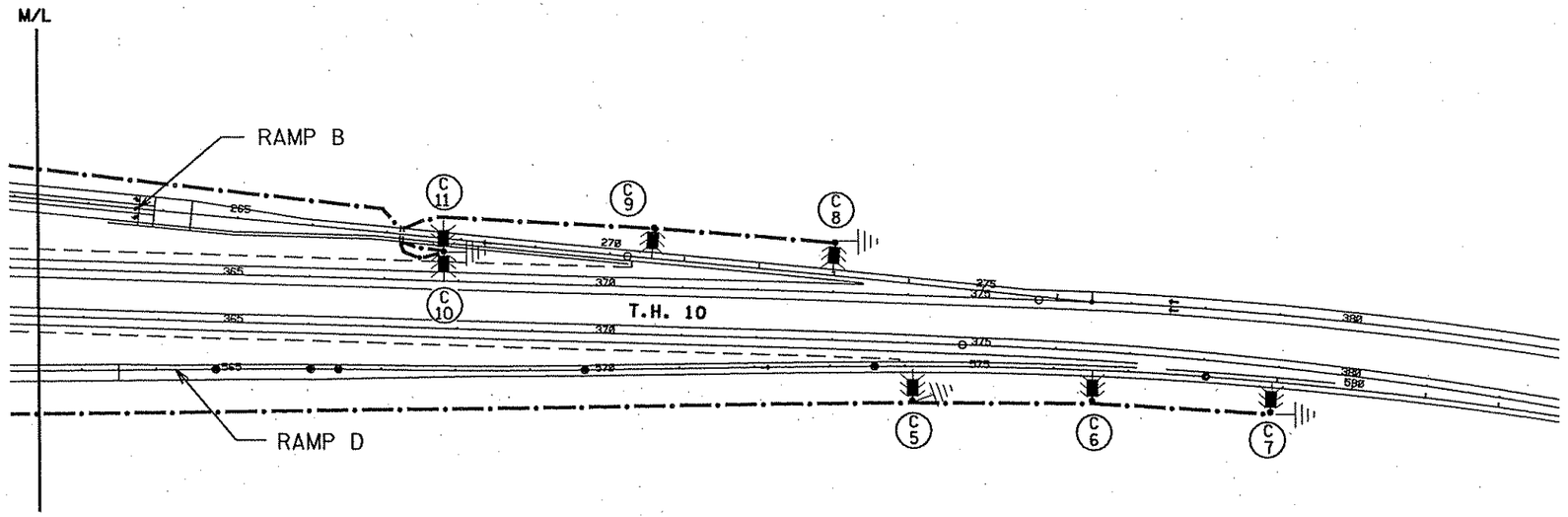
CERTIFIED BY Michael P. Schultz 9/13/06 LICENSED PROFESSIONAL ENGINEER LIC. NO. 19863

State Proj. No. 0215-59 114-020-28 (TH 10) 02-611-29 114-010-14 Sheet No. 460 of 681 Sheets

FEEDPOINT F4C

LIGHTING STANDARDS AND BASES					
NO.	STATION	LT.	RT.	LOCATION	TYPE
1	435+80		-	RAMP C	VM-45
2	438+20		-	RAMP C	VM-45
3 4	341+00		-	E.B. T.H. 10	VMD-45
5	574+10		-	RAMP D	VM-45
6	576+50		-	RAMP D	VM-45
7	578+90		-	RAMP D	VM-45
8	273+00	-		RAMP B	VM-45
9	270+60	-		RAMP B	VM-45
10 11	367+80	-		W.B. T.H. 10	VMD-45
12	138+60	-		RAMP A	VM-45
13	136+20	-		RAMP A	VM-45
14	133+80	-		RAMP A	VM-45
15	449+70		-	RAMP C	VM-40
16	851+70		-	CONN C	VM-40
17	954+70		-	CONN D	VM-40
18	557+30		-	RAMP D	VM-40
19	256+60	-		RAMP B	VM-40
20	754+60	-		CONN B	VM-40
21	651+60	-		CONN A	VM-40
22	149+00	-		RAMP A	VM-40

SEE DETAIL SHEET FOR LIGHT UNIT PLACEMENT



0' 100' 200'
SCALE

LIGHTING PLAN (T.H. 10)

LIGHTING LAYOUT

CERTIFIED BY Michael P. Kubesky 9/13/06 LIC. NO. 19863
LICENSED PROFESSIONAL ENGINEER

LEGEND OF SYMBOLS	
	CABLE TRAY
	CONDUIT - F&I
	CONDUIT - INPLACE
	DETECTOR (SPECIFY) - (SPECIFY)
	DIRECT BURIED COMMUNICATION CABLE - F&I
	DIRECT BURIED COMMUNICATION CABLE - INPLACE
	DIRECT BURIED POWER CABLE - F&I
	DIRECT BURIED POWER CABLE - INPLACE
	FLASHER - F&I
	FLASHER - INPLACE
	FLASHING BEACON - F&I
	FOUNDATION F&I, GATE ARM - F&I
	FOUNDATION INPLACE, GATE ARM - F&I
	GATE ARM - INPLACE
	GUARDRAIL END TREATMENT (SPECIFY) - (SPECIFY)
	GUARDRAIL (PLATE BEAM) - (SPECIFY)
	HANDHOLE - F&I
	HANDHOLE - INPLACE
	JUNCTION BOX OR CONDULET - F&I
	JUNCTION BOX OR CONDULET - INPLACE
	LANE ARROW
	OVERHEAD SIGN - F&I
	OVERHEAD SIGN - INPLACE
	PAD (SPECIFY) - F&I
	PAD (SPECIFY) - INPLACE
	PEDESTAL - F&I
	PEDESTAL - INPLACE
	RAMP CONTROL SIGNAL (DESIGN ONE-WAY) - F&I
	RAMP CONTROL SIGNAL (DESIGN TWO-WAY) - F&I
	RAMP CONTROL SIGNAL (DESIGN ONE-WAY) - INPLACE
	RAMP CONTROL SIGNAL (DESIGN TWO-WAY) - INPLACE

LEGEND OF SYMBOLS	
	SHELTER (TMS) - F&I
	SHELTER (TMS) - INPLACE
	SIGN (TYPE A OR D) - (SPECIFY)
	SIGN (TYPE C) - (SPECIFY)
	SIGN (TYPE CMS) - (SPECIFY)
	SIGNAL FACE - F&I
	SIGNAL FACE - INPLACE
S	SPLICE CABINET (SPECIFY) - (SPECIFY)
FO	SPLICE VAULT (FIBER OPTIC) - (SPECIFY)
TV	TELEVISION CAMERA (CCTV) - (SPECIFY)
	WOOD POLE - F&I
	WOOD POLE - INPLACE
	WOOD POLE F&I, SERVICE INSTALLATION - F&I
	WOOD POLE INPLACE, SERVICE INSTALLATION - F&I
	WOOD POLE INPLACE, SERVICE INSTALLATION - INPLACE

I HEREBY CERTIFY THAT SHEETS 462 THROUGH 486 OF THIS PLAN WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

TIMOTHY A. LEE

DATE JAN. 7 2007 LIC. NO. 22498

DESIGNER Scott Coozennoy

SP 114-010-14, SP 01-611-29, SP 114-020-28

TMS COMPONENTS

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY LICENSED PROFESSIONAL ENGINEER LIC.NO. 22498 JAN. 7 2007

STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 462 OF 681 SHEETS

S:\TMC\MN\P\ 215-59_10atHanson\0215-59+1+01V8 1/9/2007 8:23:16 Cooz1Scc WXPEC002 TMS

TABULATION OF ESTIMATED QUANTITIES - S.P. 0215-59, 114-010-14			
ITEM	NOTES	UNIT	ESTIMATED QUANTITY
REMOVE FOUNDATION	(1)	EACH	6
SALVAGE CCTV HARDWARE		EACH	1
SALVAGE RAMP CONTROL SIGNAL		EACH	2
SALVAGE FIBER OPTIC VAULT		EACH	1
SALVAGE CABINET		EACH	1
CABINET FOUNDATION		EACH	1
CCTV FOUNDATION		EACH	1
RAMP CONTROL SIGNAL FOUNDATION	(2)	EACH	2
HANDHOLE TYPE-PVC METAL COVER		EACH	11
FIBEROPTIC SPLICE VAULT		EACH	2
1.5" NON-METALLIC CONDUIT		LIN FT	7100
2" NON-METALLIC CONDUIT		LIN FT	910
3" NON-METALLIC CONDUIT		LIN FT	2430
POWER CABLE 1 CONDUCTOR NO 6		LIN FT	125
SIGNAL CONTROL CABLE 5 COND NO 12		LIN FT	2950
LEAD-IN CABLE 2 CONDUCTOR NO 14		LIN FT	8700
POWER CABLE 3 CONDUCTOR NO 8		LIN FT	150
LOOP DETECTOR SPLICE		EACH	4
INSTALL CABINET		EACH	1
SERVICE EQUIPMENT TYPE B		EACH	1
REMOVE CABLES		LUMP SUM	1
FIBER OPTIC CABLE TESTING		LUMP SUM	1
FIBER OPTIC PIGTAIL TERMINATION		EACH	3
FIBER OPTIC CABLE SPLICING		EACH	2
LOOP DETECTOR DESIGN PREFORMED		EACH	5
INSTALL RAMP CONTROL SIGNAL		EACH	2
INSTALL CCTV HARDWARE		EACH	1
BURIED CABLE SIGN		EACH	23
OUTDOOOR FIBER SPLICE ENCLOSURE		EACH	2
1.5" BORED CONDUIT		LIN FT	250
2" BORED CONDUIT		LIN FT	230
FIBEROPTIC TRUNK CABLE 36SM		LIN FT	4025
ARMORED FIBER OPTIC PIGTAIL 6SM		LIN FT	125
ARMORED FIBER OPTIC PIGTAIL 12SM		LIN FT	2175

(1) INCLUDES CCTV, RAMP CONTROL SIGNAL & 334Z CAB. FOUNDATIONS

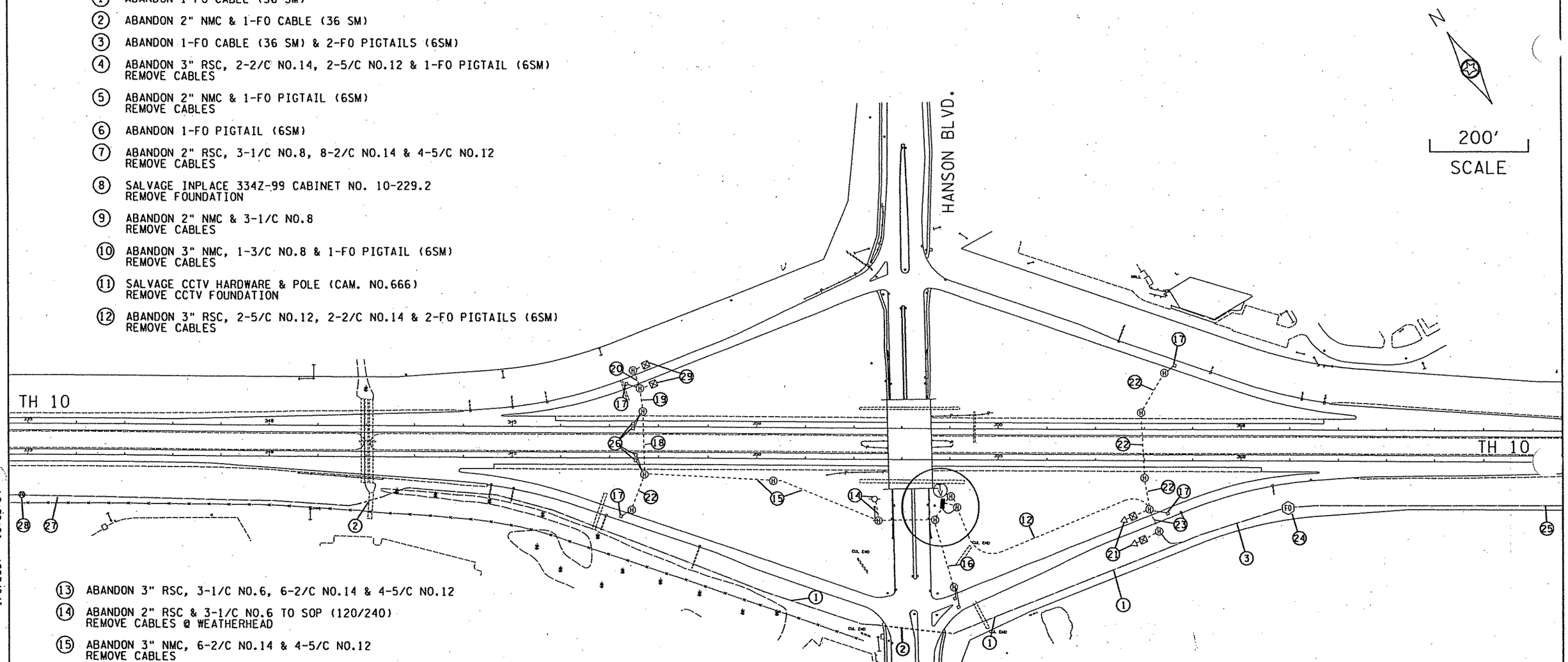
(2) SCREW-IN STYLE FOUNDATION

REV. NO.	DATE: / /
REV. NO.	DATE: / /

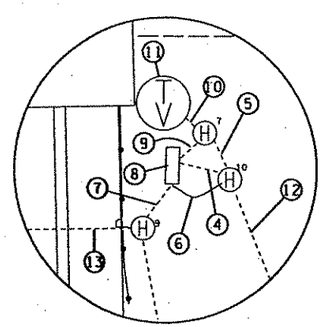
CERTIFIED BY _____ LIC.NO. 22498 JAN. 7 2007
LICENSED PROFESSIONAL ENGINEER

S:\TMC\MN\R_215-59_10atHanson\0215-59t1t01V8 - 1/9/2007 2:49:21 Cooz1Scc WXPEC002 TMS

1. ABANDON 1-FO CABLE (36 SM)
2. ABANDON 2" NMC & 1-FO CABLE (36 SM)
3. ABANDON 1-FO CABLE (36 SM) & 2-FO PIGTAILS (6SM)
4. ABANDON 3" RSC, 2-2/C NO.14, 2-5/C NO.12 & 1-FO PIGTAIL (6SM) REMOVE CABLES
5. ABANDON 2" NMC & 1-FO PIGTAIL (6SM) REMOVE CABLES
6. ABANDON 1-FO PIGTAIL (6SM)
7. ABANDON 2" RSC, 3-1/C NO.8, 8-2/C NO.14 & 4-5/C NO.12 REMOVE CABLES
8. SALVAGE INPLACE 334Z-99 CABINET NO. 10-229.2 REMOVE FOUNDATION
9. ABANDON 2" NMC & 3-1/C NO.8 REMOVE CABLES
10. ABANDON 3" NMC, 1-3/C NO.8 & 1-FO PIGTAIL (6SM) REMOVE CABLES
11. SALVAGE CCTV HARDWARE & POLE (CAM. NO.666) REMOVE CCTV FOUNDATION
12. ABANDON 3" RSC, 2-5/C NO.12, 2-2/C NO.14 & 2-FO PIGTAILS (6SM) REMOVE CABLES



13. ABANDON 3" RSC, 3-1/C NO.6, 6-2/C NO.14 & 4-5/C NO.12
14. ABANDON 2" RSC & 3-1/C NO.6 TO SOP (120/240) REMOVE CABLES @ WEATHERHEAD
15. ABANDON 3" NMC, 6-2/C NO.14 & 4-5/C NO.12 REMOVE CABLES
16. ABANDON 2" NMC & 2-2/C NO.14 REMOVE CABLES
17. ABANDON LOOP DETECTOR
18. ABANDON 3" NMC, 3-2/C NO.14 & 4-5/C NO.12 REMOVE CABLES
19. ABANDON 3" NMC, 1-2/C NO.14 & 4-5/C NO.12 REMOVE CABLES
20. ABANDON 2" NMC & 2-5/C NO.12 REMOVE CABLES
21. SALVAGE ONE WAY RAMP CONTROL SIGNAL REMOVE FOUNDATION
22. ABANDON 2" NMC & 1-2/C NO.14 REMOVE CABLES
23. ABANDON 3" RSC, 1-5/C NO.12 & 2-FO PIGTAILS (6SM) REMOVE CABLES



24. SALVAGE 1-FO SPLICE VAULT & OUTDOOR FIBER SPLICE ENCLOSURE
25. ABANDON 1-FO CABLE (36SM) & 1-FO PIGTAIL (6SM) TO LOCATION OF NEW SPLICE VAULT (SEE SHEET 467)
26. INPLACE LOOP DETECTOR
27. ABANDON FO CABLE TO WEST TO PROPOSED VAULT LOCATION (SEE SHEET 465)
28. PROPOSED VAULT LOCATION
29. REMOVE INPLACE RAMP CONTROL SIGNAL FOUNDATION

TMS REMOVAL PLAN
TH 10 AT HANSON BLVD.

SP 114-010-14, SP 01-611-29, SP 114-020-28

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY [signature] LICENSED PROFESSIONAL ENGINEER LIC.NO. 22498 JAN. 7 2007

STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 464 OF 681 SHEETS

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1 INPLACE FO CABLE (36SM)

2 F&I FO SPLICE VAULT & OUTDOOR FIBER SPLICE ENCLOSURE HAND DIG 75' OF INPLACE CABLE AND PLACE WITHIN SPLICE VAULT

3 F&I 1.5" NMC FOR FUTURE USE

4 F&I LOOP DETECTOR DESIGN PREFORMED

5 F&I 2" NMC & 1-2/C NO.14

6 F&I 1.5" BORED CONDUIT UNDER STORM OUTLET AREA

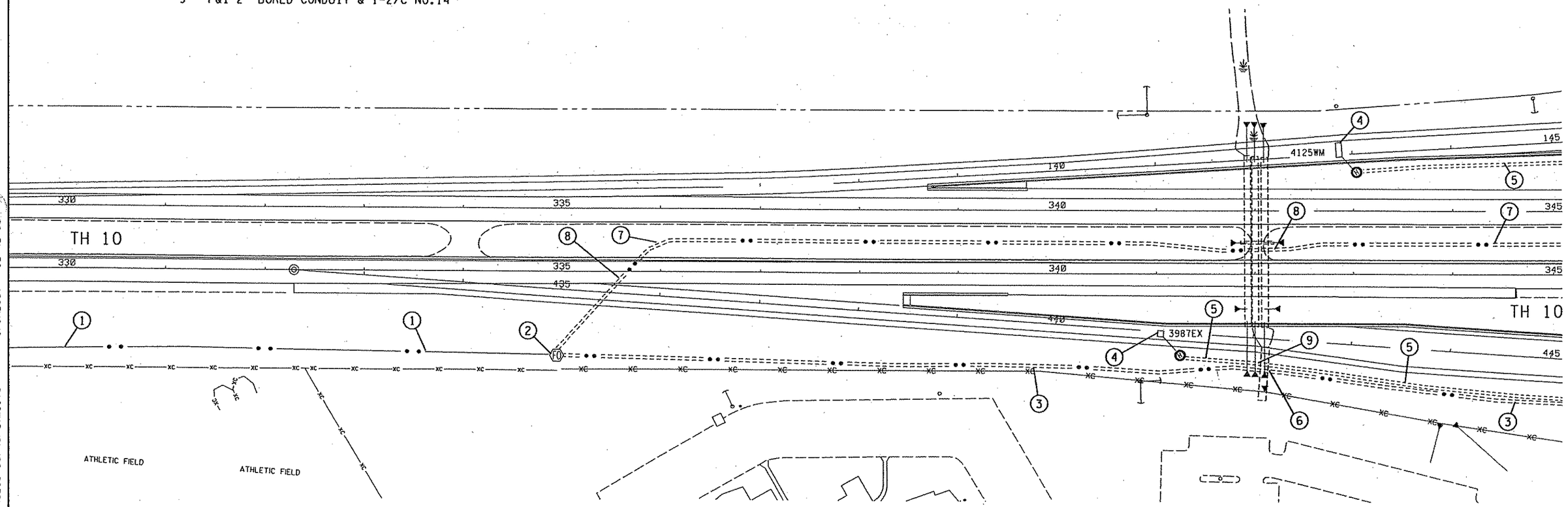
7 F&I 1.5" NMC & 1-FO CABLE (36SM)

8 F&I 1.5" BORED CONDUIT & 1-FO CABLE (36SM)

9 F&I 2" BORED CONDUIT & 1-2/C NO.14

N

100'
SCALE



PROPOSED TRAFFIC MANAGEMENT SYSTEM
TH 10 AT HANSON BLVD.

SP 114-010-14, SP 01-611-29, SP 114-020-28

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY _____ LICENSED PROFESSIONAL ENGINEER LIC.NO. 22498 JAN. 7 2007

STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 465 OF 681 SHEETS

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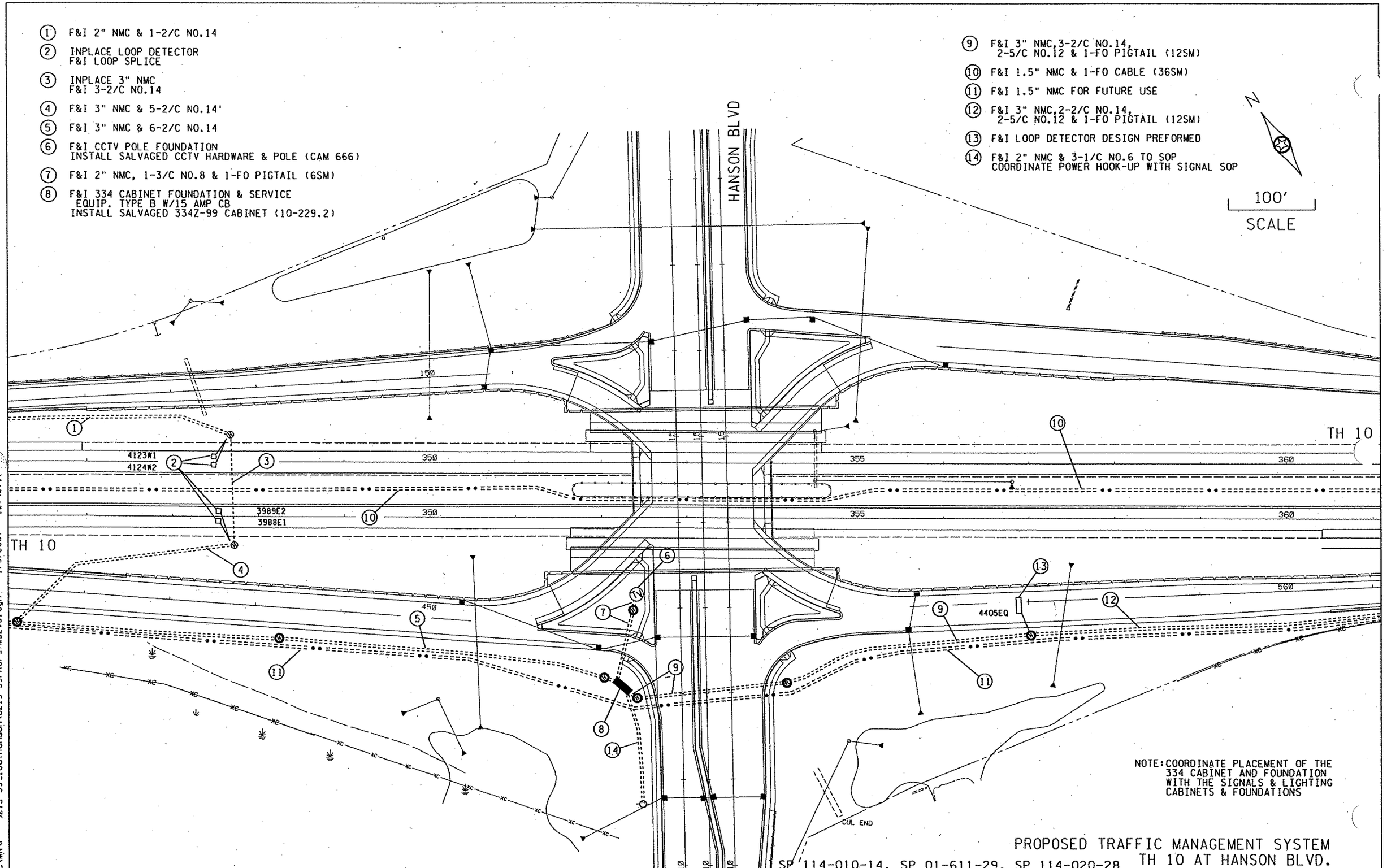
1. F&I 2" NMC & 1-2/C NO.14
2. INPLACE LOOP DETECTOR
   F&I LOOP SPLICE
3. INPLACE 3" NMC
   F&I 3-2/C NO.14
4. F&I 3" NMC & 5-2/C NO.14'
5. F&I 3" NMC & 6-2/C NO.14
6. F&I CCTV POLE FOUNDATION
   INSTALL SALVAGED CCTV HARDWARE & POLE (CAM 666)
7. F&I 2" NMC, 1-3/C NO.8 & 1-FO PIGTAIL (6SM)
8. F&I 334 CABINET FOUNDATION & SERVICE
   EQUIP. TYPE B W/15 AMP CB
   INSTALL SALVAGED 334Z-99 CABINET (10-229.2)
9. F&I 3" NMC,3-2/C NO.14,
   2-5/C NO.12 & 1-FO PIGTAIL (12SM)
10. F&I 1.5" NMC & 1-FO CABLE (36SM)
11. F&I 1.5" NMC FOR FUTURE USE
12. F&I 3" NMC,2-2/C NO.14,
    2-5/C NO.12 & 1-FO PIGTAIL (12SM)
13. F&I LOOP DETECTOR DESIGN PREFORMED
14. F&I 2" NMC & 3-1/C NO.6 TO SOP
    COORDINATE POWER HOOK-UP WITH SIGNAL SOP



NOTE: COORDINATE PLACEMENT OF THE 334 CABINET AND FOUNDATION WITH THE SIGNALS & LIGHTING CABINETS & FOUNDATIONS

PROPOSED TRAFFIC MANAGEMENT SYSTEM
TH 10 AT HANSON BLVD.

SP 114-010-14, SP 01-611-29, SP 114-020-28

REV. NO.	DATE: / /
REV. NO.	DATE: / /

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STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 466 OF 681 SHEETS

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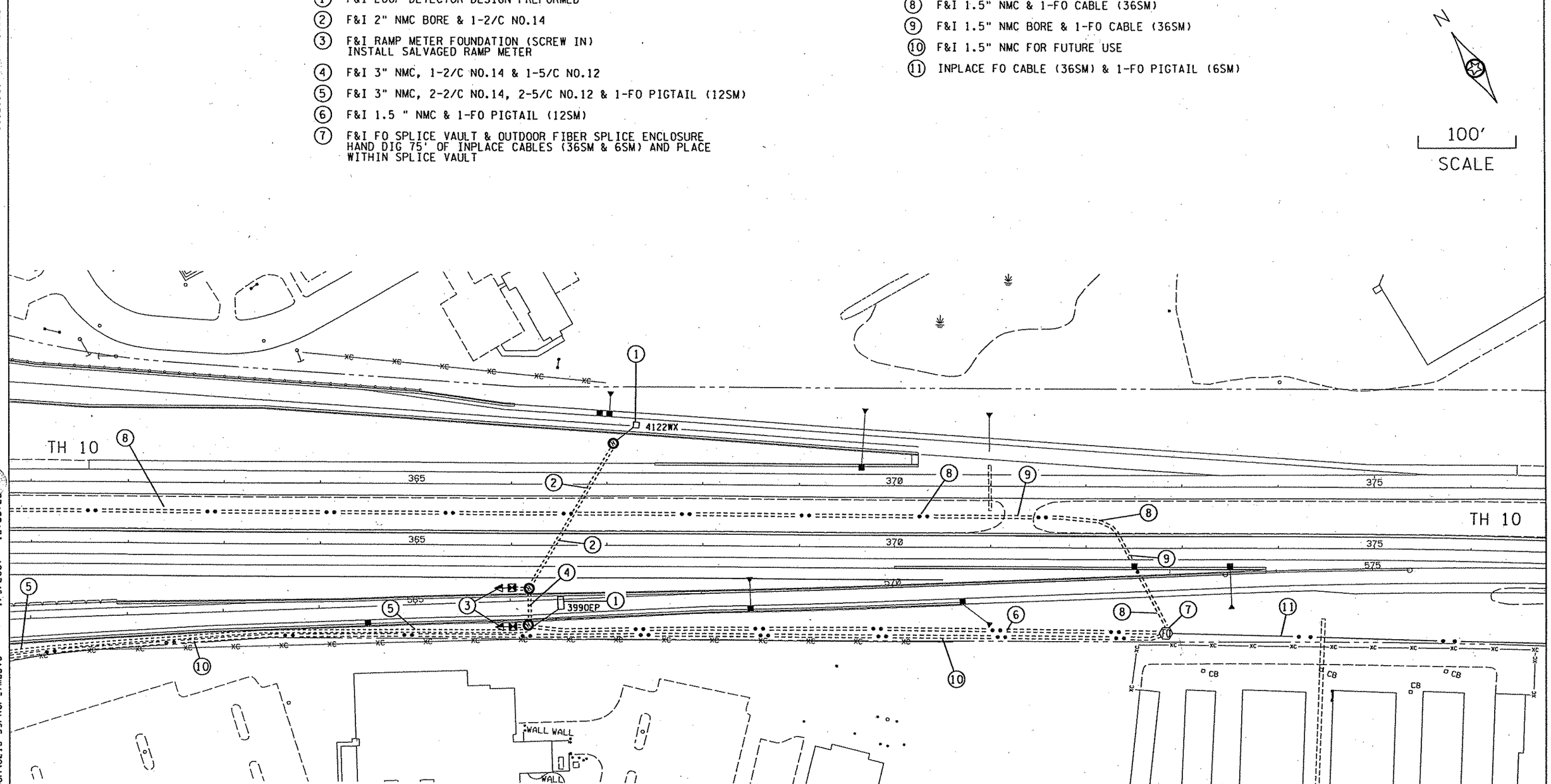
1. F&I LOOP DETECTOR DESIGN PREFORMED
2. F&I 2" NMC BORE & 1-2/C NO.14
3. F&I RAMP METER FOUNDATION (SCREW IN) INSTALL SALVAGED RAMP METER
4. F&I 3" NMC, 1-2/C NO.14 & 1-5/C NO.12
5. F&I 3" NMC, 2-2/C NO.14, 2-5/C NO.12 & 1-FO PIGTAIL (12SM)
6. F&I 1.5 " NMC & 1-FO PIGTAIL (12SM)
7. F&I FO SPLICE VAULT & OUTDOOR FIBER SPLICE ENCLOSURE HAND DIG 75' OF INPLACE CABLES (36SM & 6SM) AND PLACE WITHIN SPLICE VAULT
8. F&I 1.5" NMC & 1-FO CABLE (36SM)
9. F&I 1.5" NMC BORE & 1-FO CABLE (36SM)
10. F&I 1.5" NMC FOR FUTURE USE
11. INPLACE FO CABLE (36SM) & 1-FO PIGTAIL (6SM)



PROPOSED TRAFFIC MANAGEMENT SYSTEM
TH 10 AT HANSON BLVD.

SP 114-010-14, SP 01-611-29, SP 114-020-28

REV. NO.	DATE: / /
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STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 467 OF 681 SHEETS

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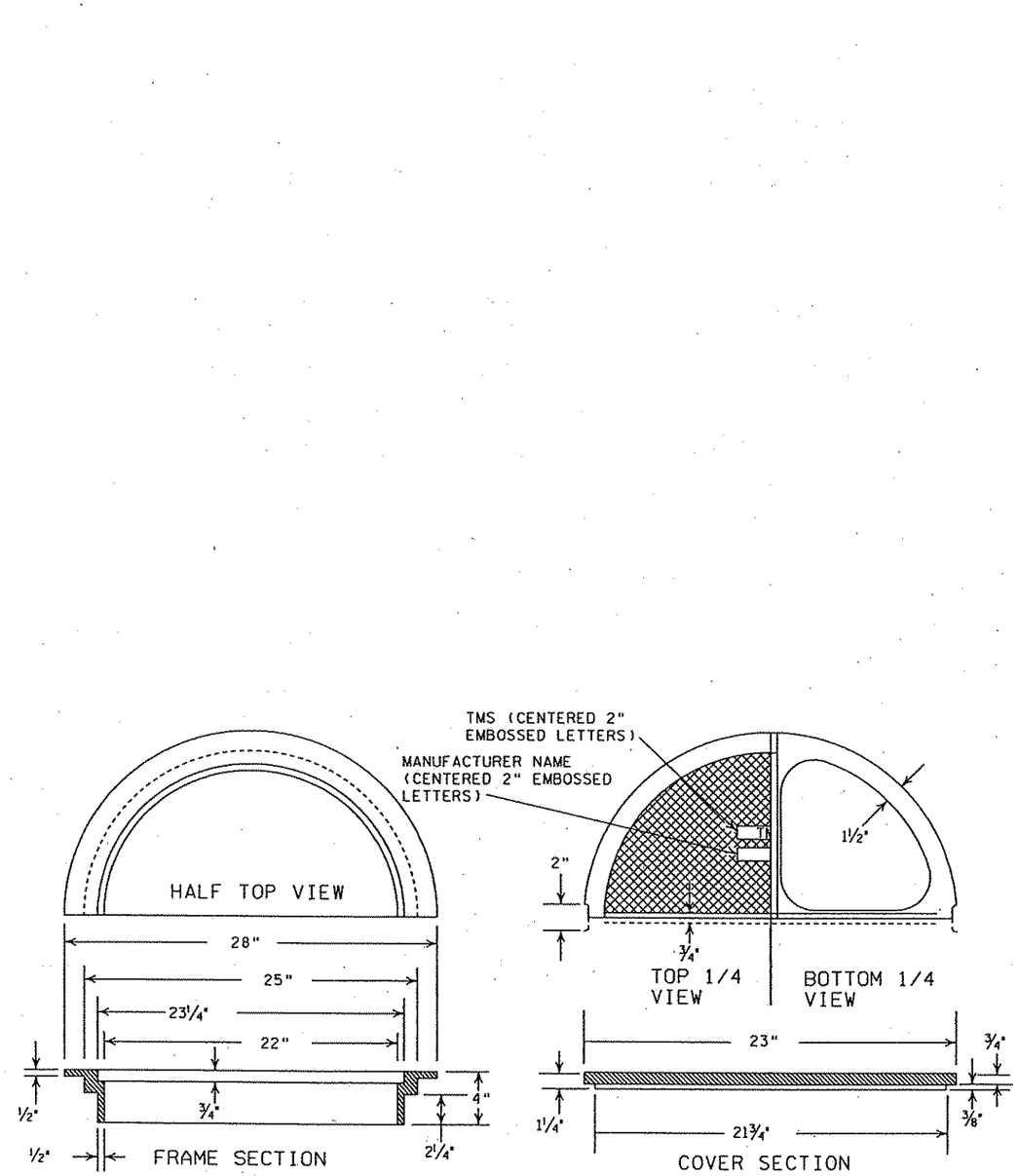
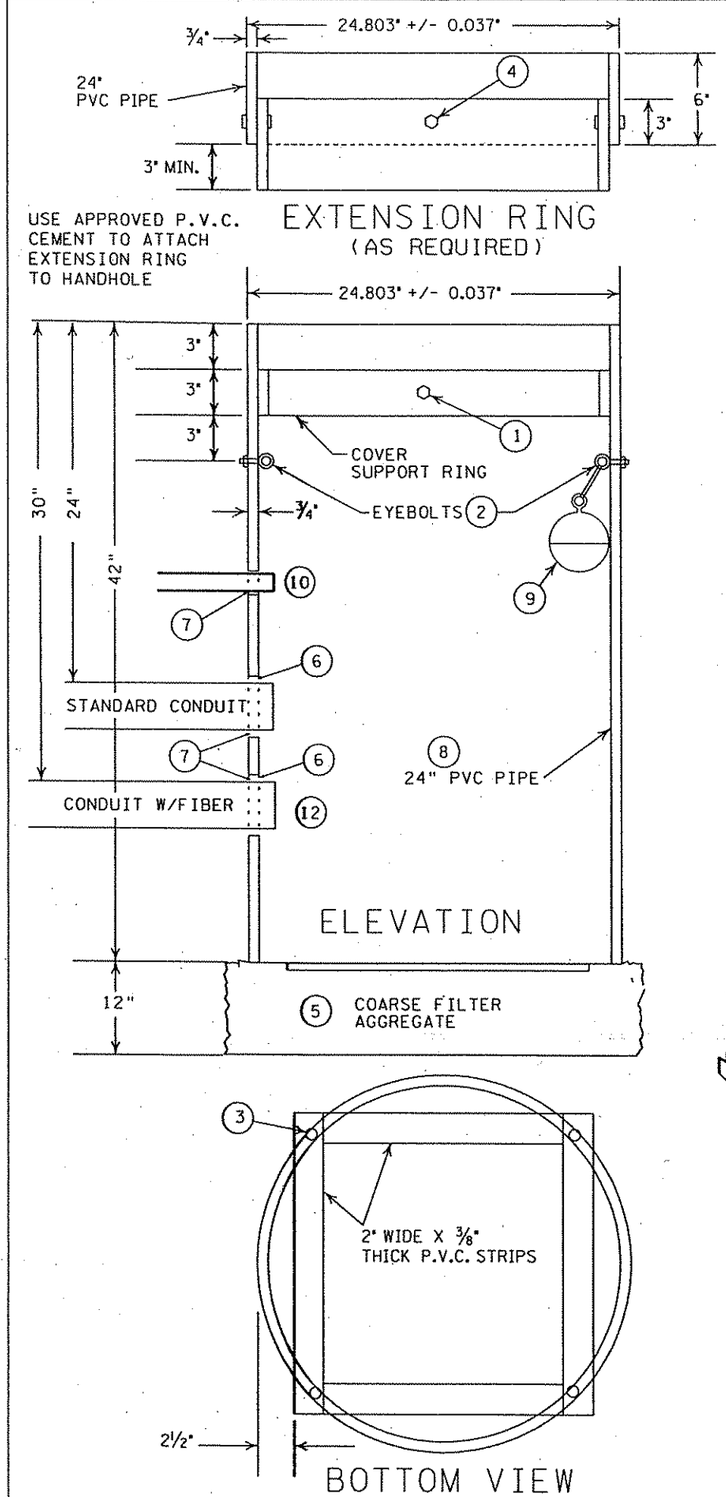


FRAME AND COVER CASTING

NOTE:
ALL CASTINGS ARE GRAY IRON PER MN/DOT SPEC. 3321 CLASS 35B

LIGHT DUTY METAL COVER



NOTES:

1. ATTACH SPLIT 24" DIA. P.V.C. COVER SUPPORT RING WITH FOUR 3/8 " DIA. X 2" LONG BOLTS AND NUTS AT 90° APART.
2. TWO TYPE 2 SHOULDER EYEBOLTS, 3/8 " DIA. X 1 1/4 " SHANK LENGTH, WITH HEX. NUTS AT 180° APART (FOR LIFTING HANDHOLES AND SUPPORTING ELECTRICAL CABLES).
3. FOUR 1/4 " X 1 1/4 " LONG GALVANIZED LAG SCREWS.
4. ATTACH SPLIT 24" DIA. PVC EXTENSION RING WITH FOUR 3/8 " DIA. X 2" LONG BOLTS AT 90° APART. THE BOLTS & NUTS COMPLY WITH MN/DOT 3391.2E, THE OTHER HARDWARE WITH 3392.
5. COMPACT COARSE FILTER AGGREGATE COMPLYING WITH MN/DOT 3149.2H TO A 12" DEPTH.
6. CONDUIT ENTRANCES IN THE BARREL ARE SIZED 1.0" LARGER THAN THE CONDUIT USED.
7. PLUG HANDHOLE AT CONDUIT INSTALLATION, PROVIDING A WATER TIGHT SEAL.
8. THE PVC PIPE COMPLIES WITH ASTM F 9T-1.
9. INSTALL ORANGE LOCATER BALL WITH TIE WRAP TO EYE BOLT
10. MINIMUM CONDUIT DEPTH FOR LOOP WIRES SHALL BE 1.5'.
11. INSTALL CONDUITS NO SHARPER THAN 135 DEG. FOR INSTALLATIONS OF CONDUIT WHERE FIBER WILL PASS THRU.
12. INSTALL CONDUITS WITH FIBER PASSING THRU AT 30" DEPTH THRU HANDHOLES. TRANSITION TO/FROM STANDARD 36" FIBER DEPTH OR PUSH DEPTH OUTSIDE HANDHOLES. NOTE:PROVIDE 36" CONDUIT STUB OUT FOR DIRECT BURIED FIBER PASSING THRU HANDHOLE.

SP 114-010-14, SP 01-611-29, SP 114-020-28

HANDHOLE DETAIL

REV. NO. 1	DATE: 12/05/00
REV. NO.	DATE: / /

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LICENSED PROFESSIONAL ENGINEER

STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 468 OF 681 SHEETS

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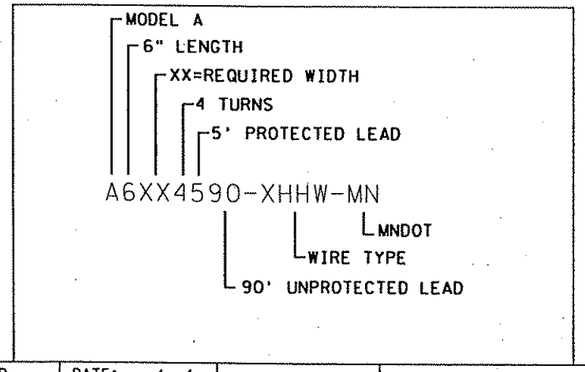
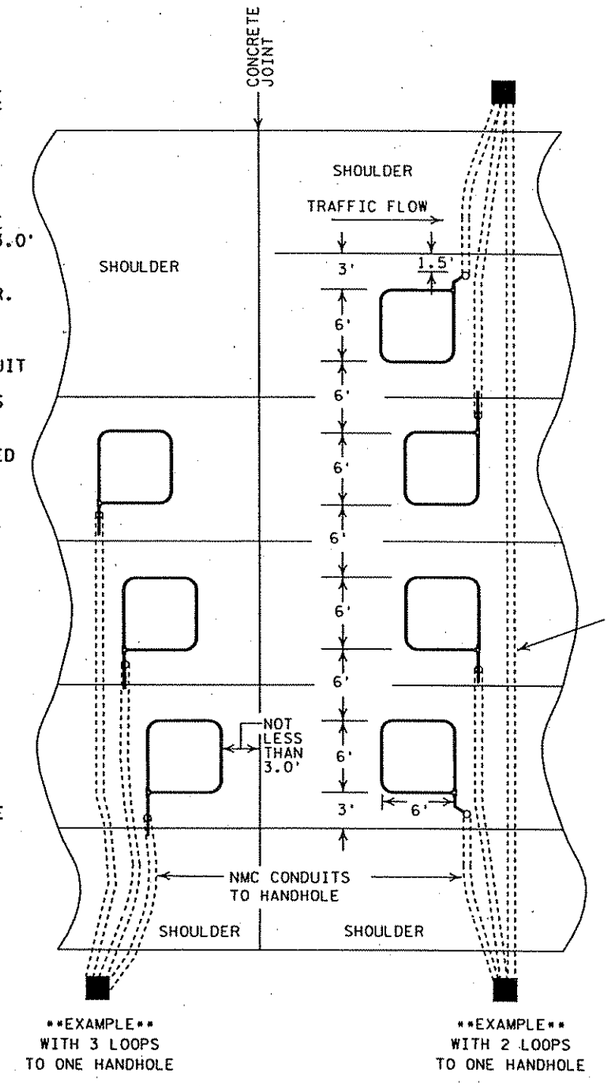
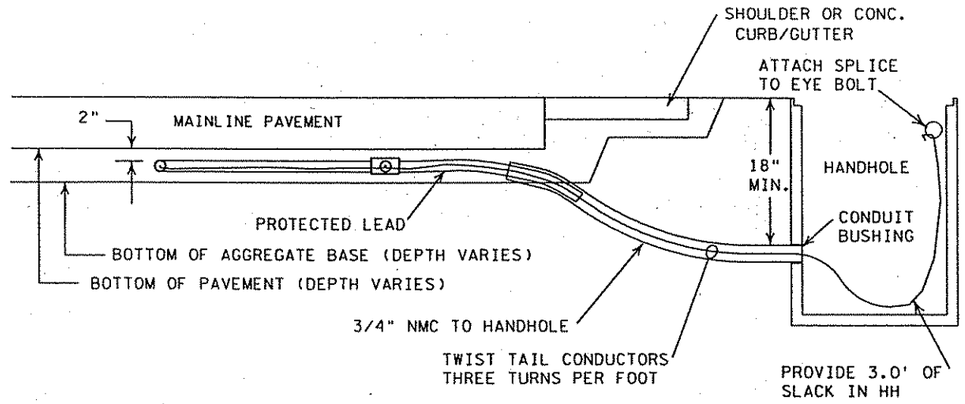
GENERAL NOTES:

1. SEE SPECIAL PROVISIONS FOR REQUIRED LOOP DETECTOR CONDUCTOR SPLICE KIT.
2. THE LOOP DETECTOR HEAD SHALL BE 5/8 " O.D. POLYPROPOLYENE CONDUIT AND SHALL BE INJECTED WITH HOT RUBBERIZED ASPHALT AFTER CONDUCTOR PLACEMENT TO ENCAPSULATE THE WIRE AND PROVIDE A MOISTURE BARRIER
3. PREFORMED LOOP DETECTORS ARE VARIABLE SIZED DEPENDING ON ROADWAY LOCATION AND SHALL BE INSTALLED IN THE CENTER OF THE LANE. PAVEMENT JOINTS FOR CONCRETE PAVING SHALL BE ESTABLISHED BEFORE LOOP PLACEMENT TO MAINTAIN A MIN. OF 3.0' FROM DOWEL BASKET PLACEMENT
4. THE LOOP DETECTOR CONDUCTOR IS 1/C NO. 16 STRANDED COPPER. WITH XHHW INSULATION.
5. THE PROTECTED LEAD PORTION OF LOOP SHALL EXTEND FROM THE TEE CONNECTOR, ENDING A MIN. OF 1.0' INSIDE THE NMC CONDUIT
6. THE LOOP DETECTOR CONDUCTORS SHALL BE TWISTED THREE TURNS PER FOOT FROM THE NMC TEE CONNECTOR TO THE HANDHOLE.
7. EACH LOOP DETECTOR CONDUIT TO THE HANDHOLE SHALL BE SLOPED TOWARDS THE HANDHOLE.
8. THE LOOP DETECTOR CONDUCTORS SHALL END IN THE HANDHOLE.
9. NO SPLICES ALLOWED IN LOOP CONDUCTOR EXCEPT AT HANDHOLE
10. SEE SPECIAL PROVISIONS FOR TESTING REQUIREMENTS OF LOOP DETECTORS
11. THE LOOP DETECTOR CONDUCTORS AND THE LOOP DETECTOR LEAD-IN CABLE CONDUCTORS SHALL BE PROPERLY PREPARED AND CLEANED BEFORE SPLICING. SOLDER THE LOOP CONDUCTOR TO LEAD-IN CONDUCTORS, INSTALL THE SPLICE IN WIRE NUT, THEN PLACE IT INTO THE SPLICE ENCAPSULATOR
12. INSTALL THE SPLICE IN A PLASTIC TUBE WITH END CAPS THAT FUNCTION AS SPOUTS. USE A TWO PART INSULATING RESIN, CONFINED IN A UNIPAK, THAT TURNS BLACK WHEN MIXED AND BECOMES HARD WHEN CURED. INSTALL BOTH LOOP CONDUCTORS AND LEAD-IN INTO THE SAME END OF THE TUBE AND ENCAPSULATE THE SPLICE.
13. THE LOOP INSULATION RESISTANCE READING MUST BE GREATER THAN 100 MEG OHM.
14. "NEVER FAIL LOOP SYSTEMS" DETECTOR-MODEL A WITH THE MNDOT PART NUMBER NOTED BELOW HAS MET THESE REQUIREMENTS

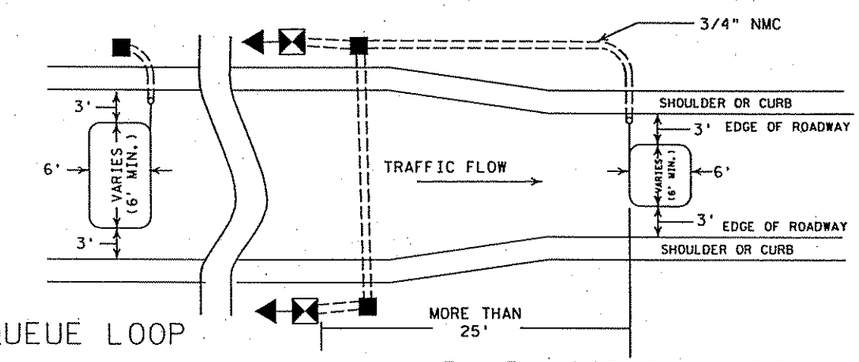




MAINLINE DETECTORS

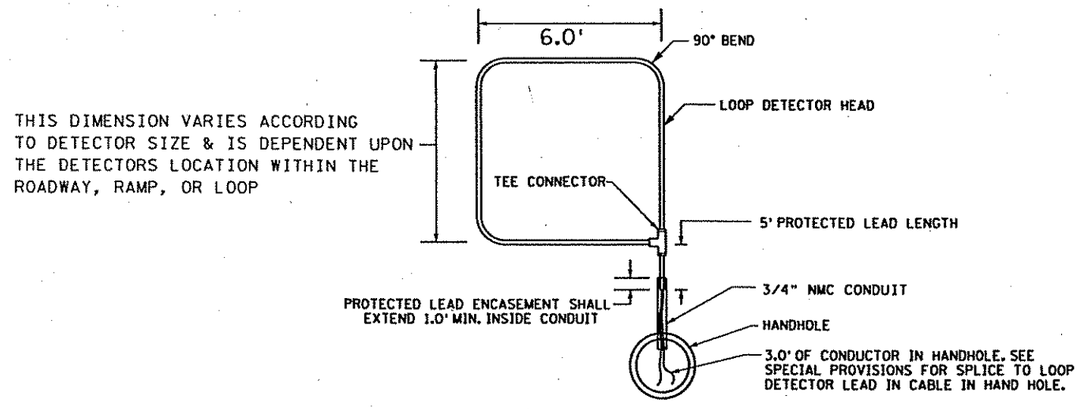


CONDUIT/HANDHOLE INSTALLATION



QUEUE LOOP

RAMP LOOP DETECTION



TYPICAL PREFORMED LOOP DETECTOR DETAIL

SP 114-010-14, SP 01-611-29, SP 114-020-28

TMS "PREFORMED" LOOP DETECTOR-PART ONE

REV. NO.	DATE: / /		CERTIFIED BY _____ LIC.NO. 22498 JAN. 7 2007	STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 469 OF 681 SHEETS
REV. NO.	DATE: / /		LICENSED PROFESSIONAL ENGINEER	

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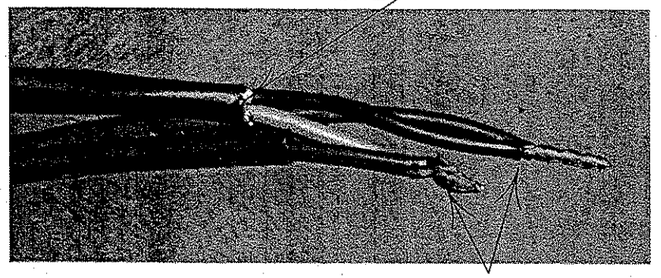
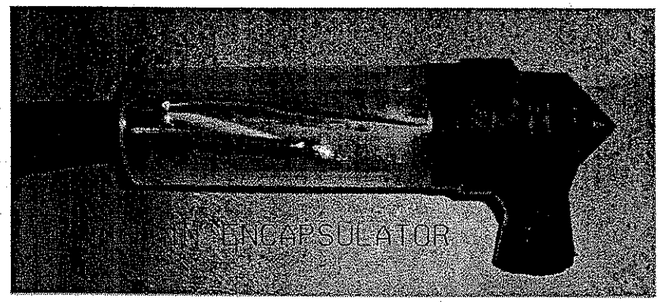
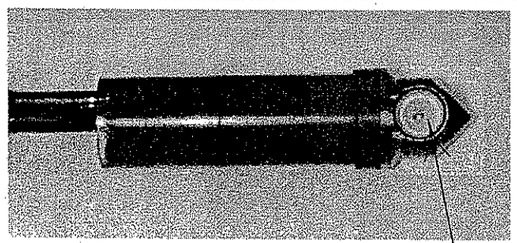
CUT & REMOVE DRAIN WIRE

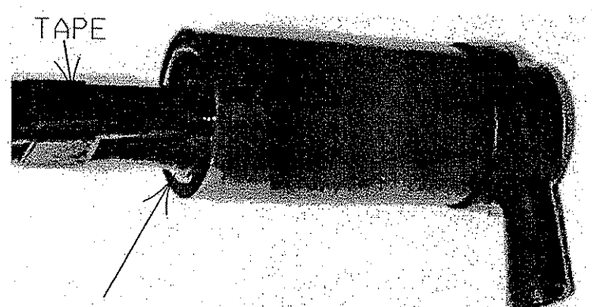


SOLDERED BUTT SPLICE



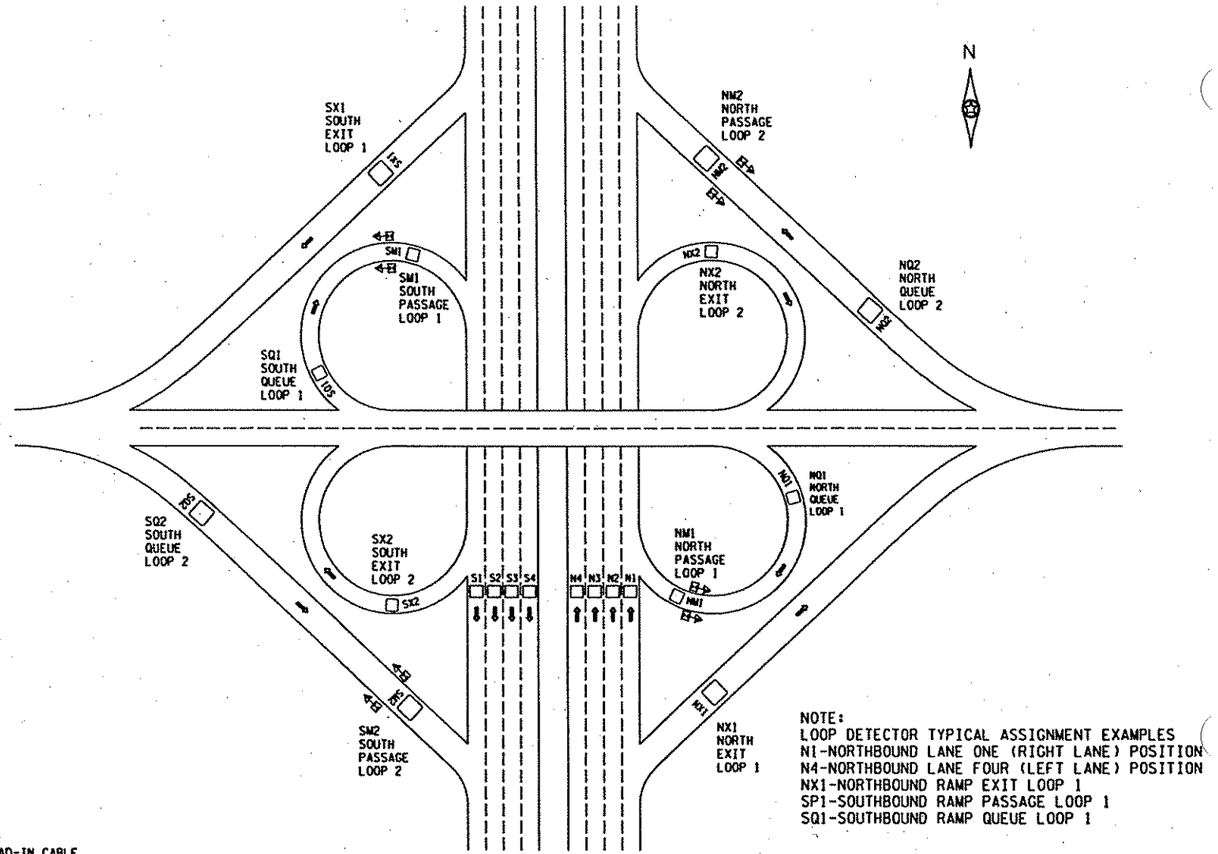


PLACE WIRE NUT IN ONE END TO BLOCK OPENING



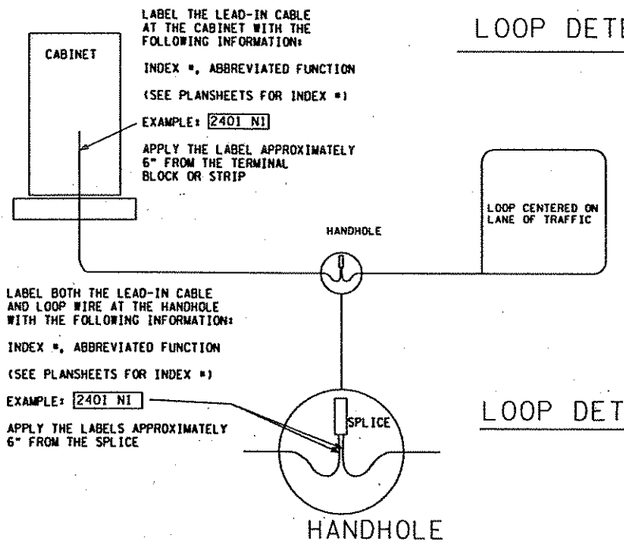
FILL ENCAPSULATOR COMPLETELY-ALLOW FINISHED SPLICE TO CURE SO EPOXY DOES NOT RUN OUT

LOOP DETECTOR SPLICE FOR SAWCUT AND PREFORMED LOOPS



NOTE:
LOOP DETECTOR TYPICAL ASSIGNMENT EXAMPLES
N1-NORTHBOUND LANE ONE (RIGHT LANE) POSITION
N4-NORTHBOUND LANE FOUR (LEFT LANE) POSITION
NX1-NORTHBOUND RAMP EXIT LOOP 1
SP1-SOUTHBOUND RAMP PASSAGE LOOP 1
SQ1-SOUTHBOUND RAMP QUEUE LOOP 1

LOOP DETECTOR FUNCTION DESIGNATIONS



LOOP DETECTOR CABLE LABELING

SP 114-010-14, SP 01-611-29, SP 114-020-28 TMS LOOP DETECTOR TYPICAL-PART TWO

REV. NO. 1	DATE: 07/17/02
REV. NO.	DATE: / /

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STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 470 OF 681 SHEETS

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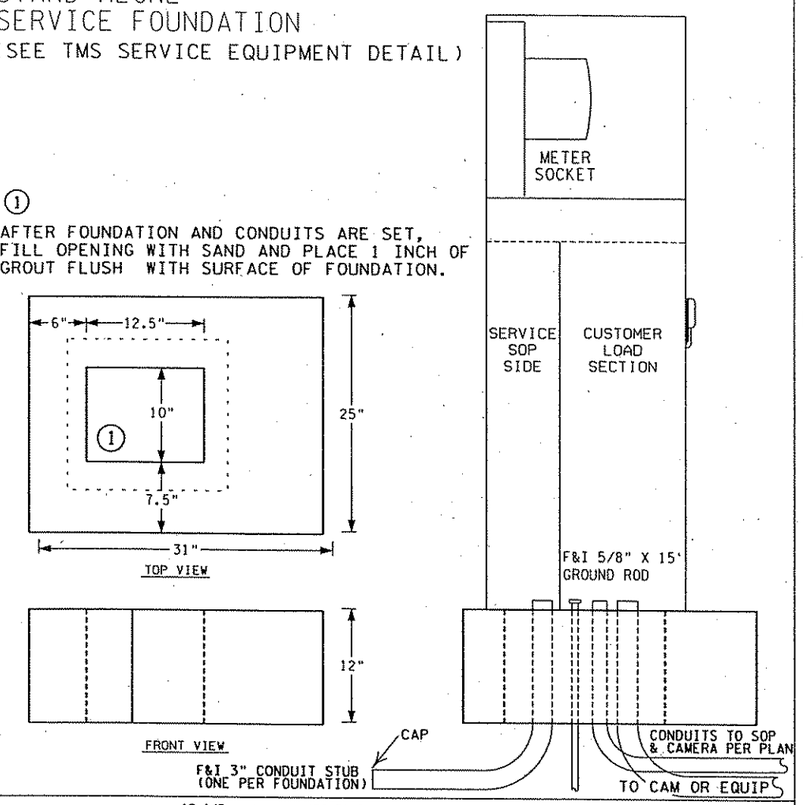
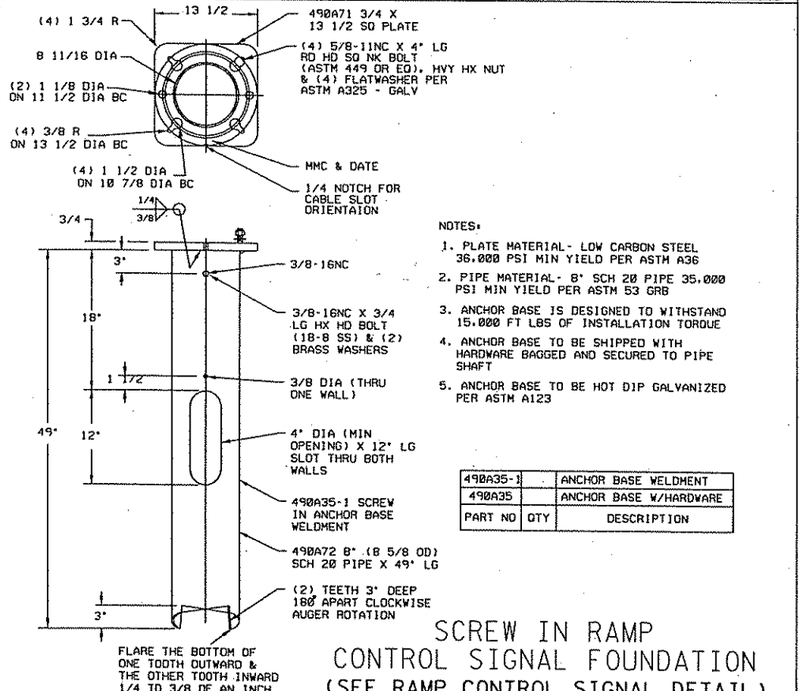
STAND ALONE SERVICE FOUNDATION

(SEE TMS SERVICE EQUIPMENT DETAIL)



① AFTER FOUNDATION AND CONDUITS ARE SET, FILL OPENING WITH SAND AND PLACE 1 INCH OF GROUT FLUSH WITH SURFACE OF FOUNDATION.



NOTES:

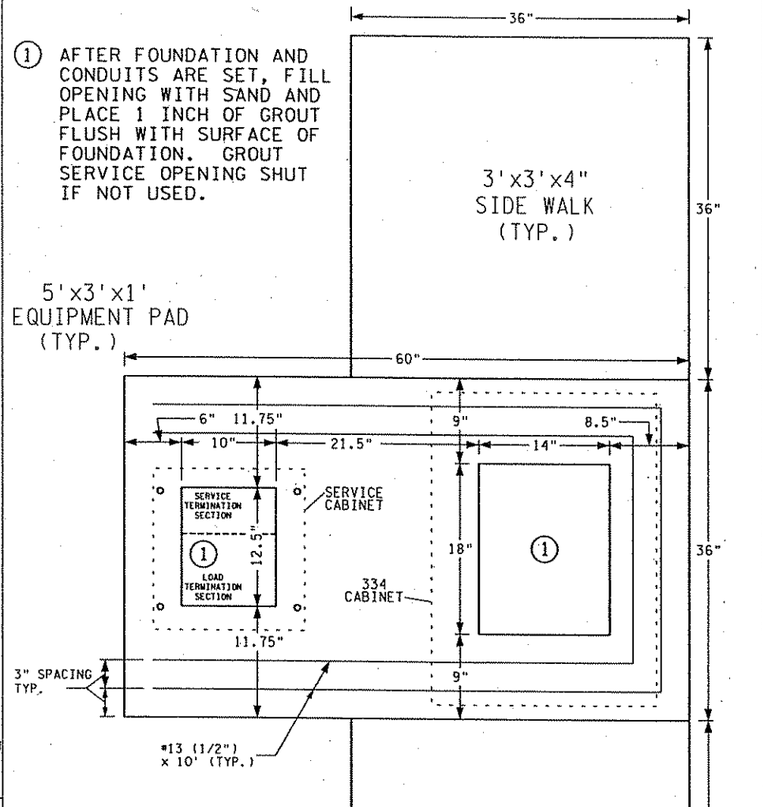
1. PLATE MATERIAL- LOW CARBON STEEL 36,000 PSI MIN YIELD PER ASTM A36
2. PIPE MATERIAL- 8" SCH 20 PIPE 35,000 PSI MIN YIELD PER ASTM 53 GRB
3. ANCHOR BASE IS DESIGNED TO WITHSTAND 15,000 FT LBS OF INSTALLATION TORQUE
4. ANCHOR BASE TO BE SHIPPED WITH HARDWARE BAGGED AND SECURED TO PIPE SHAFT
5. ANCHOR BASE TO BE HOT DIP GALVANIZED PER ASTM A123

PART NO	QTY	DESCRIPTION
490A35-1		ANCHOR BASE WELDMENT
490A35		ANCHOR BASE W/HARDWARE

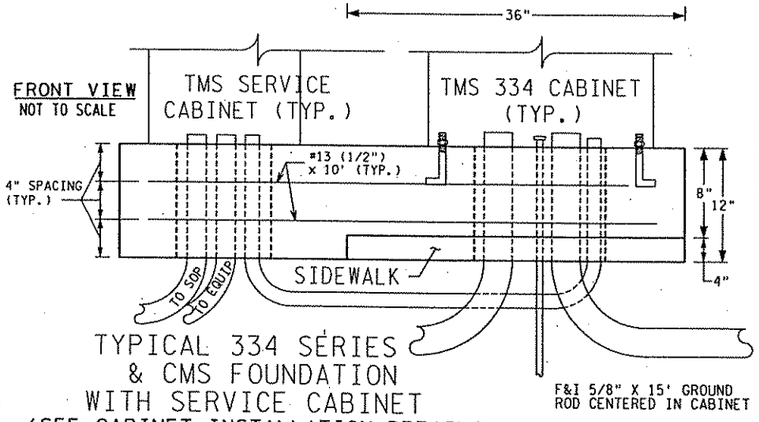
SCREW IN RAMP CONTROL SIGNAL FOUNDATION

(SEE RAMP CONTROL SIGNAL DETAIL)

① AFTER FOUNDATION AND CONDUITS ARE SET, FILL OPENING WITH SAND AND PLACE 1 INCH OF GROUT FLUSH WITH SURFACE OF FOUNDATION. GROUT SERVICE OPENING SHUT IF NOT USED.



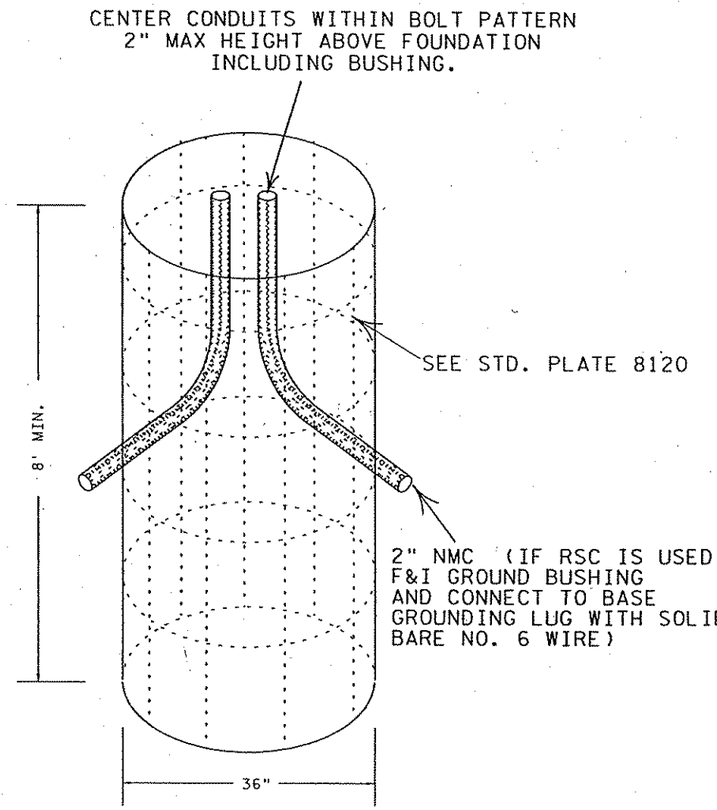
TOP VIEW
NOT TO SCALE



TYPICAL 334 SERIES & CMS FOUNDATION WITH SERVICE CABINET

(SEE CABINET INSTALLATION DETAIL)

SEE STD. PLATE 8120 FOR ANCHOR BOLT REQUIREMENTS



CCTV POLE FOUNDATION

(SEE CCTV INSTALLATION DETAIL)

SP 114-010-14, SP 01-611-29, SP 114-020-28

TYPICAL FOUNDATION DETAILS

REV. NO.	DATE: / /
REV. NO.	DATE: / /

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STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 471 OF 681 SHEETS

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Coozlsc :WXPEC002 TMS

1. F&I 3-1/C NO.10 POWER CABLE - TERMINATE AT EACH END
2. F&I 2/C NO.14-
3. F&I 1-FO PIGTAIL-PLACE 1 LOOP OF PIGTAIL CABLE WITHIN CABINET-TERMINATE END & LAND IN PATCH PANEL
4. FIBER OPTIC PATCH CORDS (MNDOT PROVIDED & INSTALLED)
5. F&I 5/C NO.12-TERMINATE EACH END PER RCS DETAIL
6. RS232 LINE (MNDOT PROVIDED & INSTALLED)
7. F&I 1-1/C NO.6 BARE GROUND WIRE-COAT CONNECTION WITH ANTI-OXIDIZING AGENT
8. INSTALL NEOPRENE GASKET (SUPPLIED BY MNDOT)
9. DATA LINK (MNDOT PROVIDED & INSTALLED)
10. F&I SHEATH GROUNDING UNIT (NORSCAN #2706)

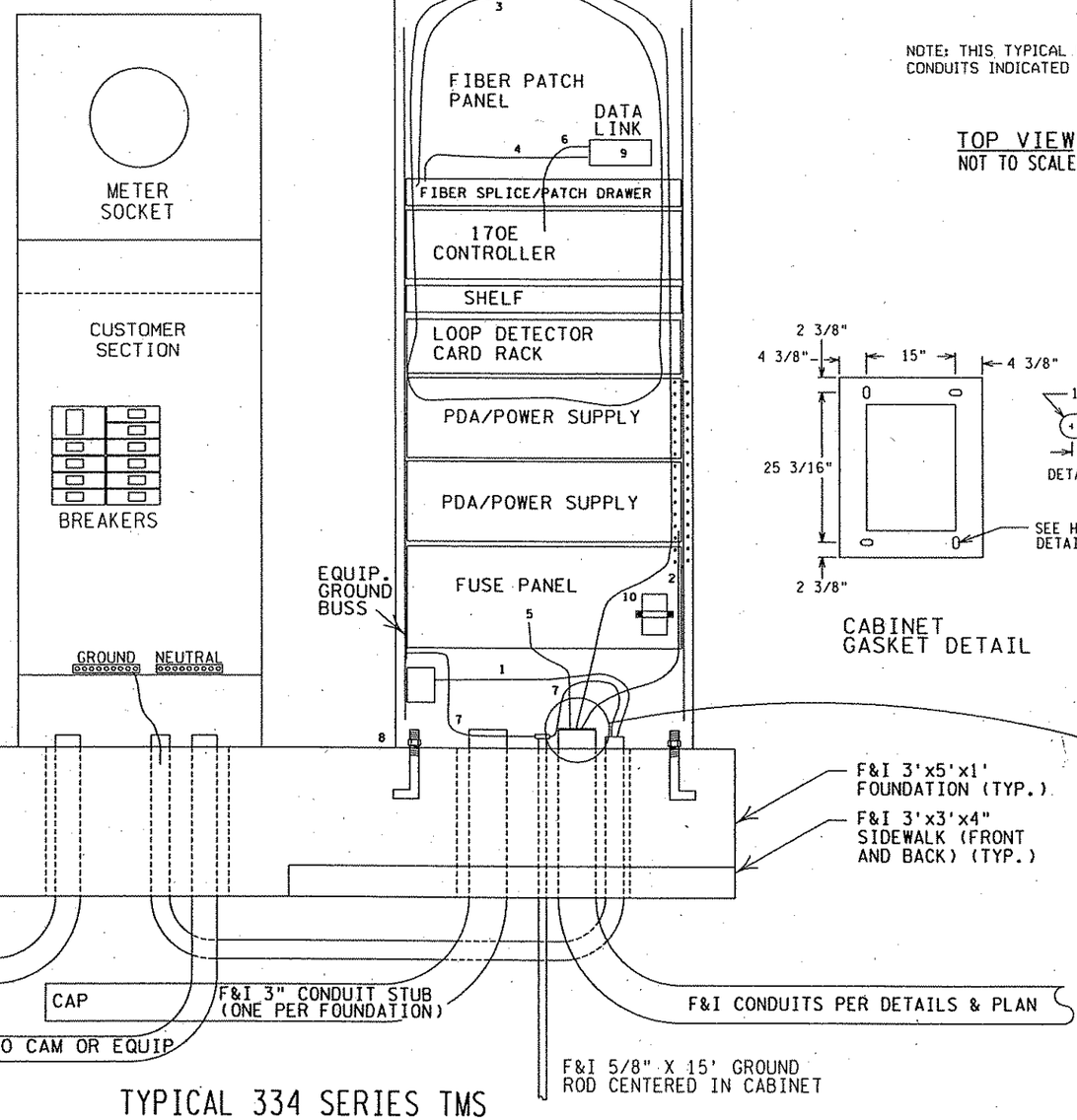
MNDOT PROVIDED

1. TMS 334Z CONTROL CABINET WITH:
   - A) 170 CONTROLLER
   - B) FIBER OPTIC PATCH PANEL
   - C) CB ENCL. & BREAKER INSIDE CABINET
   - D) NEOPRENE CAB. GASKET

MNDOT PROVIDED & INSTALLED

1. FIBER OPTIC PATCH CORDS
2. FO PIGTAIL & PATCH PANEL LABELS WITHIN CMS CABINET
3. DATA LINK

INSTALL 334 SERIES TMS CONTROL CABINET (MNDOT PROVIDED)

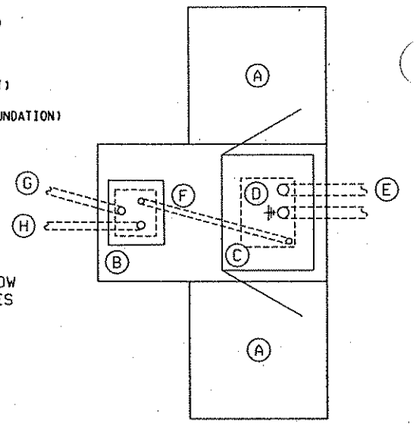


FRONT VIEW
NOT TO SCALE

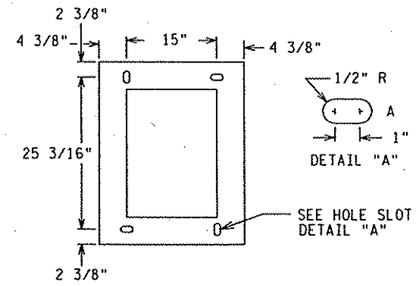
TYPICAL 334 SERIES TMS CABINET INSTALLATION

A) 3' X 3' SIDEWALK (SEE STD. PLATE 8119)
B) 4' X 4.5' PAD (SEE STD. PLATE 8119)
C) 334Z STYLE CABINET LOCATION
D) GROUND ROD (CENTERED WITHIN CABINET)
E) 3" NMC CAPPED STUB OUT (ONE PER FOUNDATION)
F) 1.5" NMC & 3-1/C NO.10
G) 2" NMC FOR ELECTRICAL SERVICE
H) 2" NMC TO CAMERA

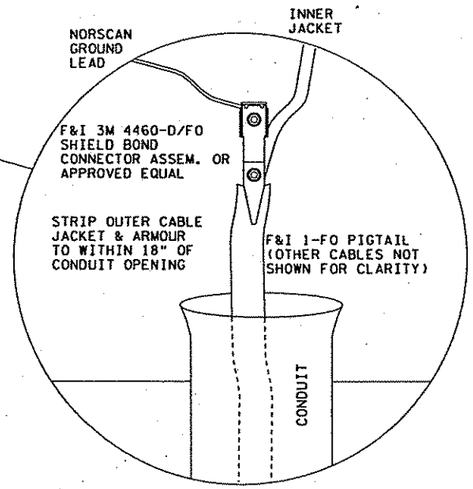
NOTE: THIS TYPICAL DOES NOT SHOW CONDUITS INDICATED IN PLAN NOTES



TOP VIEW
NOT TO SCALE



CABINET GASKET DETAIL



FO PIGTAIL GROUNDING

SP 114-010-14, SP 01-611-29, SP 114-020-28 TYPICAL 334 CABINET INSTALLATION

REV. NO.	DATE: / /
REV. NO.	DATE: / /

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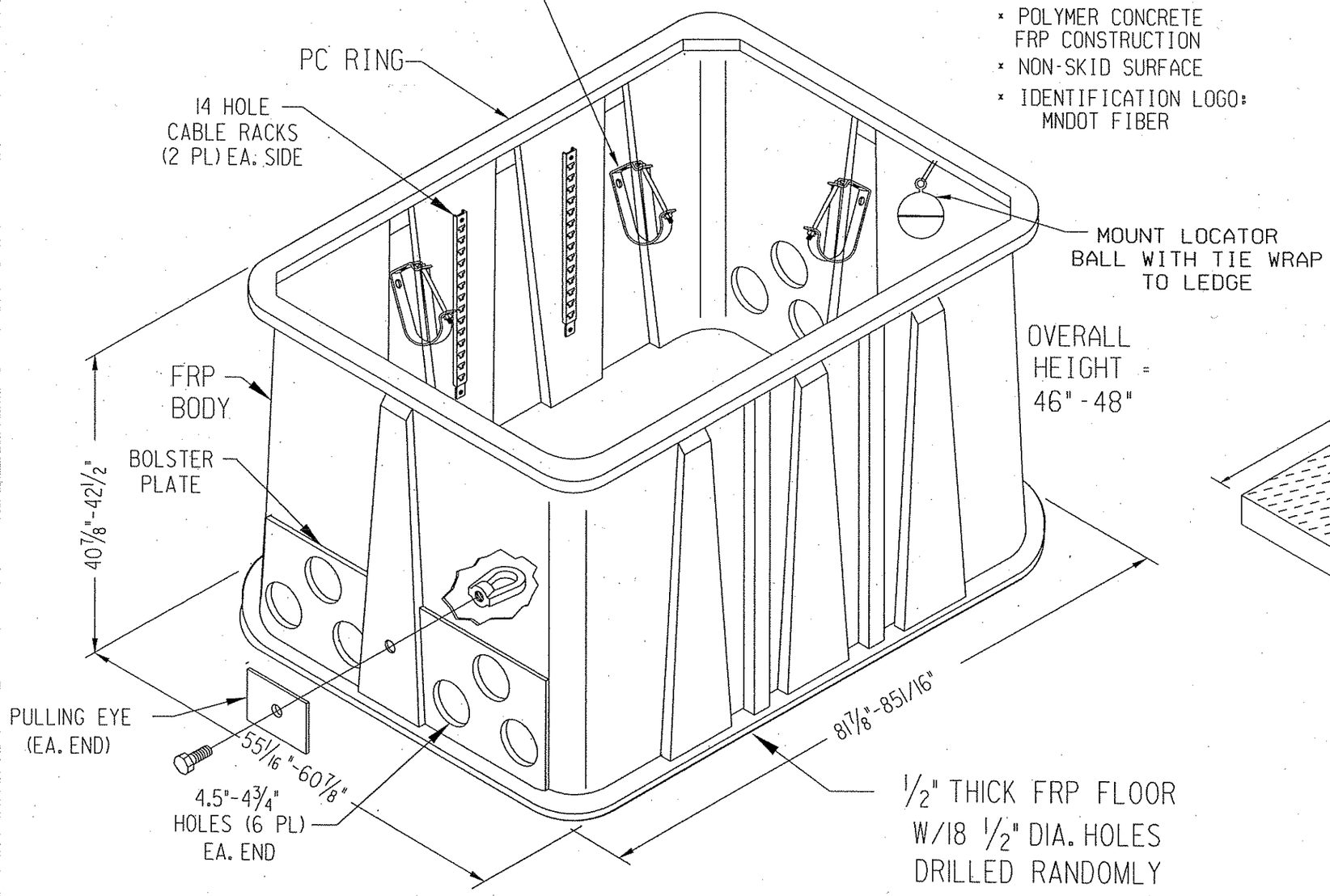
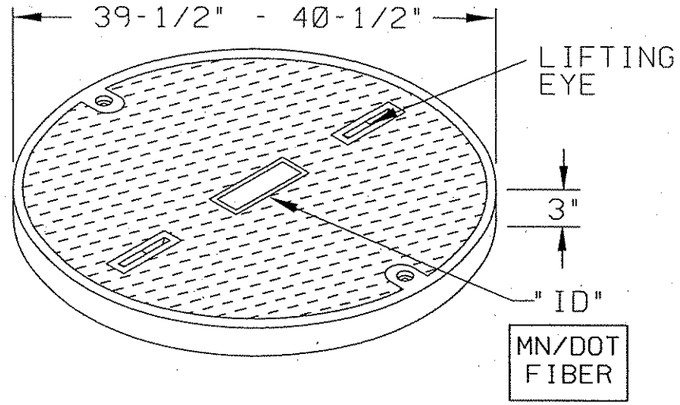
STAINLESS STEEL COILING BRACKETS,
SIZED FOR 4" PIPE
& 8-3/8" IN HEIGHT (6 EACH).
PLACE 12" BELOW TOP OF PC RING.
FASTEN WITH SS HH BOLTS 5/8" X 4-1/2"
LONG AND SS "NYLOCK" STYLE LOCKNUT

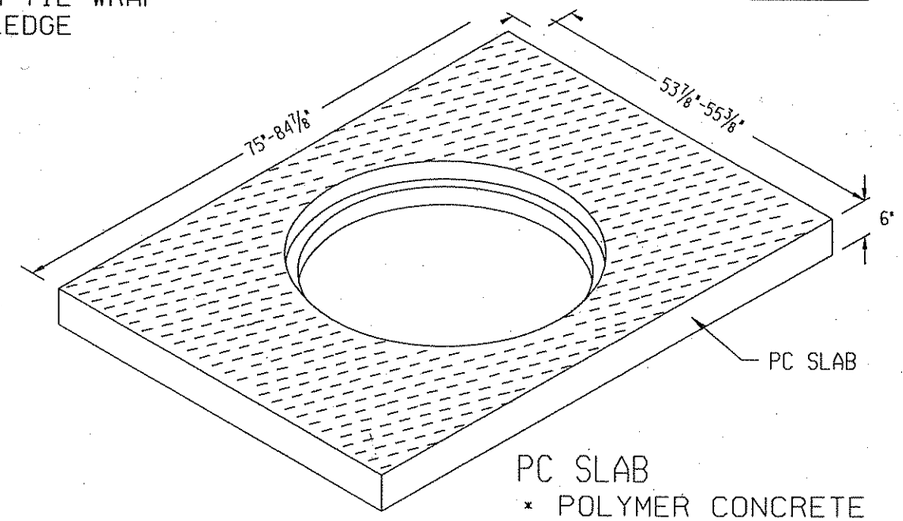


DRAWING NOT TO SCALE
* ALL BOLTS STAINLESS STEEL

COVER FEATURES

* 20845 LB WHEEL LOADING
* APPROX. WT. = 180 LBS.
* (2) 3/8"-16 X 3-1/2" LONG SS HH BOLTS W/SELF ALIGNING REPLACEABLE SS NUTS POSITIONED IN HOLES TO ALLOW DRAINAGE OF SOIL & DEBRIS
* POLYMER CONCRETE FRP CONSTRUCTION
* NON-SKID SURFACE
* IDENTIFICATION LOGO: MNDOT FIBER





PC SLAB
* POLYMER CONCRETE
* NON-SKID SURFACE

FRP VAULT FEATURES

* FIBERGLASS REINFORCED POLYMER (FRP) CONSTRUCTION
* POLYMER CONCRETE RING

SP 114-010-14, SP 01-611-29, SP 114-020-28

FIBER OPTIC SPLICE VAULT

REV. NO.	DATE: / /
REV. NO.	DATE: / /

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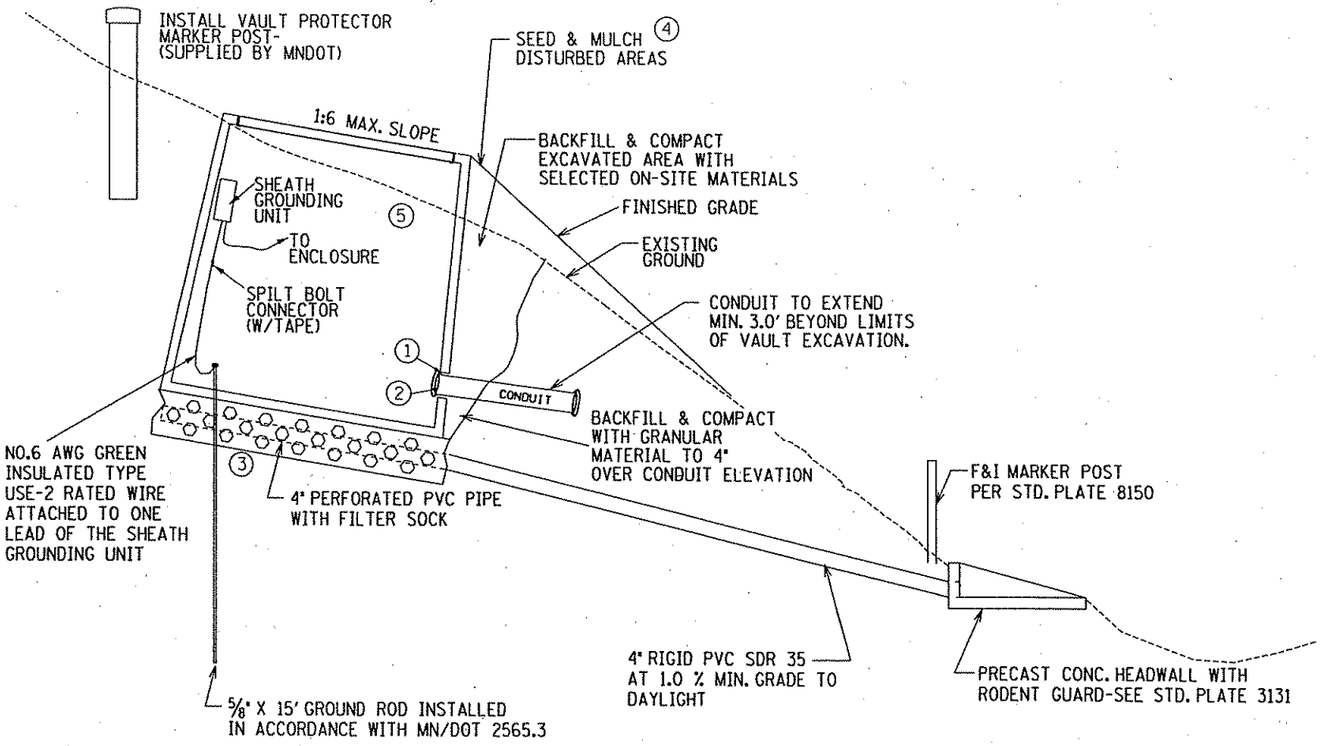
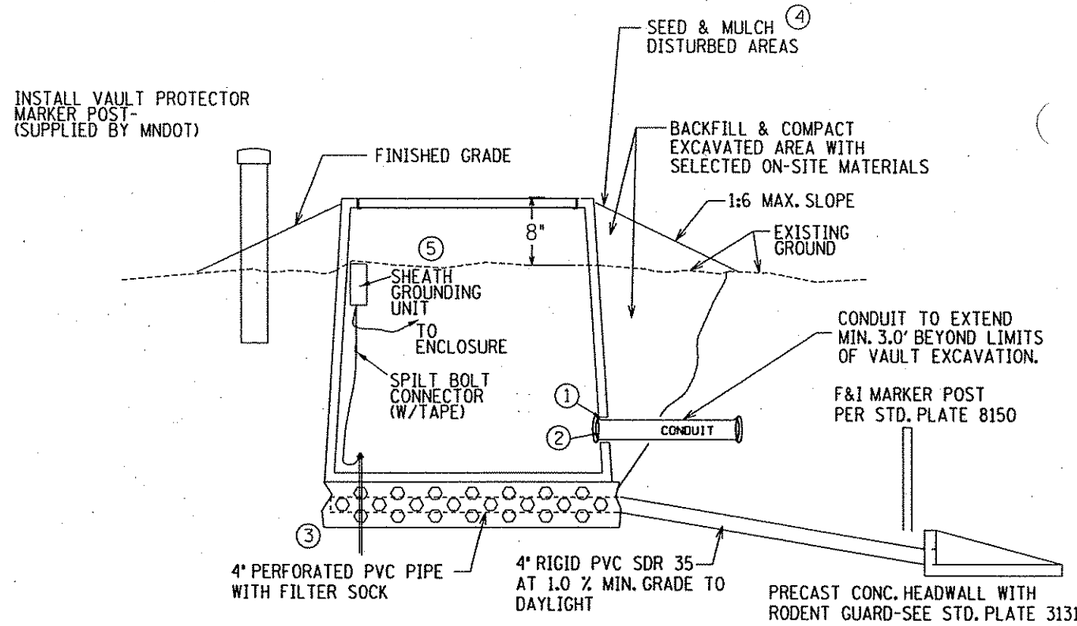
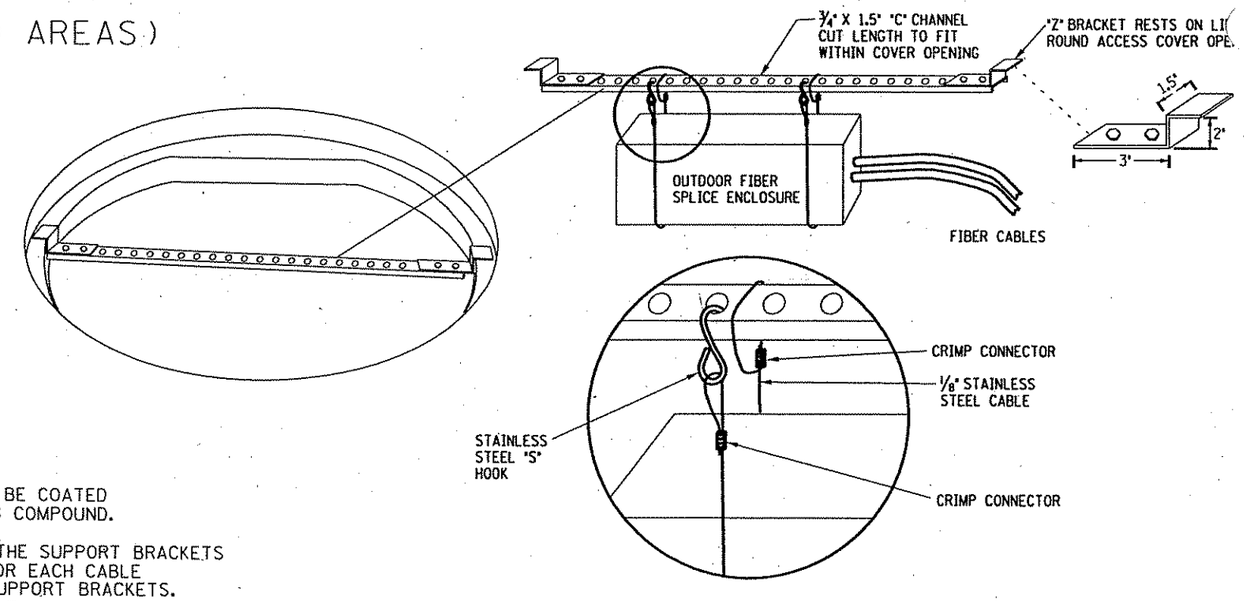


VAULT INSTALLATION & DRAINAGE SYSTEM (SLOPED AREAS)



VAULT INSTALLATION & DRAINAGE SYSTEM (LEVEL GROUND AREAS)

COVER OPENING IN VAULT PC SLAB



OUTDOOR FIBER SPLICE ENCLOSURE HANGER BRACKETING

SPLICE ENCLOSURE HANGER DETAIL

SPECIFIC NOTES

① OPENINGS FOR CONDUIT SHALL BE SEALED WITH MATERIAL COMPATIBLE SEALANT. (INCIDENTAL)

② PLUG CONDUIT OPENING WITH A DRAINABLE COMPOUND (INCIDENTAL)

③ F&I 1.0' COARSE FILTER AGGREGATE UNDER BASE COMPLYING WITH MN/DOT 3149.2H. F&I 4" PERFERATED PVC PIPE WITH FILTER SOCK TO PROVIDE DRAINAGE. (INCIDENTAL)

④ RESTORE DISTURBED AREAS WITH SEED MIXTURE 240 AND TYPE I MULCH PER MNDOT 2575.3

⑤ STRIP TOPSOIL FROM VAULT AND SLOPE AREAS PRIOR TO VAULT INSTALLATION (INCIDENTAL)

GENERAL NOTES

1. GROUND CONNECTIONS SHALL BE COATED WITH OXIDATION PROHIBITING COMPOUND.
2. CABLE SHALL ENTER BELOW THE SUPPORT BRACKETS WITH 50' OF EXTRA CABLE FOR EACH CABLE COILED AROUND INSIDE OF SUPPORT BRACKETS. CABLES SHALL BE CUT TO THE SAME LENGTH
3. ALL HARDWARE SHALL BE STAINLESS STEEL WITH EXCEPTION OF THE "C" CHANNEL MOUNTING BAR.
4. THE FRAME AND LID OF THE VAULT SHALL BE IN ACCORDANCE WITH AASHTO LOAD RATING H-10

SP 114-010-14, SP 01-611-29, SP 114-020-28

FIBER OPTIC SPLICE VAULT INSTALLATION

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY Timothy A. [signature] LICENSED PROFESSIONAL ENGINEER LIC.NO. 22498 JAN 7 2007

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DATE:	DATE: 03/06/02
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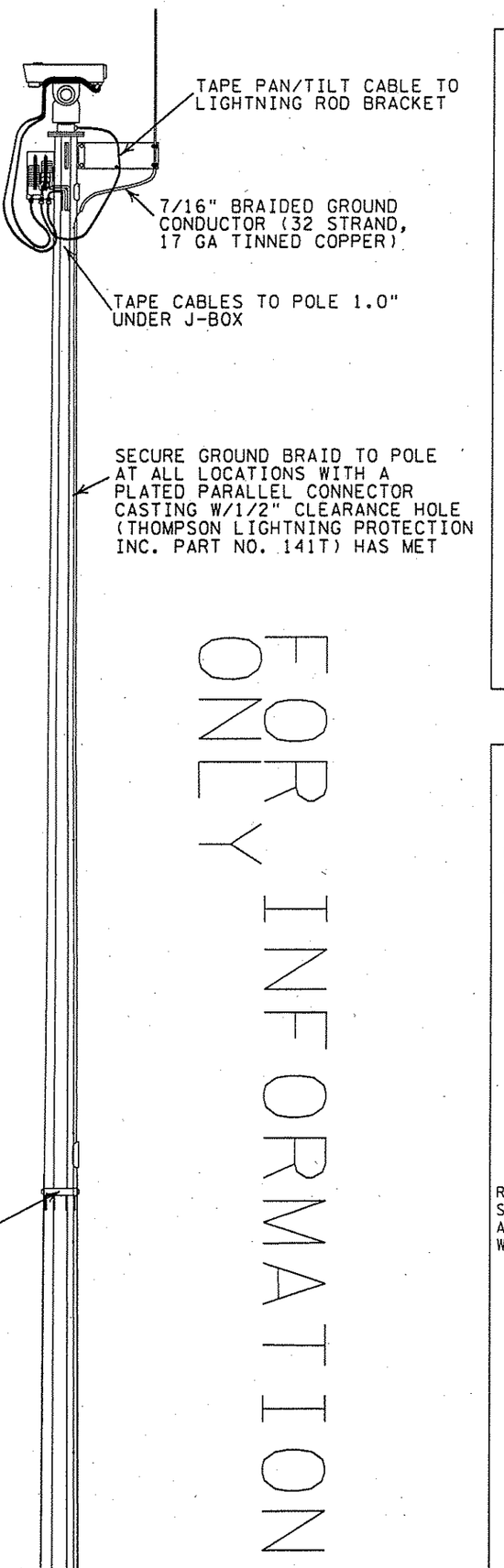
NOTE: SET TILT STOPS AT 10 & 2 O'CLOCK BEFORE FIELD INSTALLATION

SET PAN STOPS FOR FULL ROTATION. INSTALL PAN/TILT SO THE STATIONARY LIMIT STOP IS LOCATED OVER THE LIGHTNING ROD BRACKET.

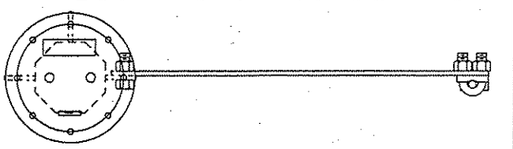
NOTE: TIE-WRAP CABLES WITHIN POLE AT J-BOX TO STRAIN RELIEF HOOKS

USE ANTI-SEIZE COMPOUND ON ALL THREADS PERMATEX (PASTE TYPE) PART NO. 133K IS AN APPROVED ANTI-SEIZE COMPOUND

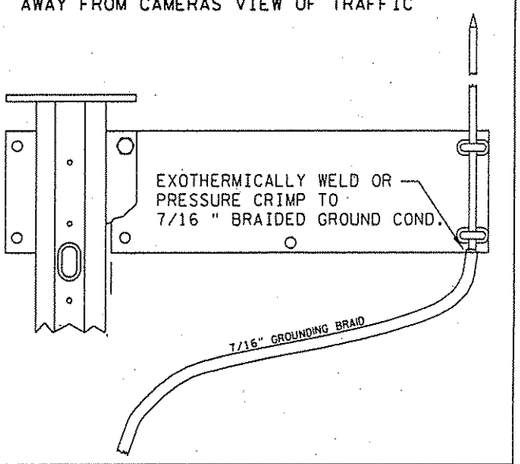


FOR INFORMATION ONLY

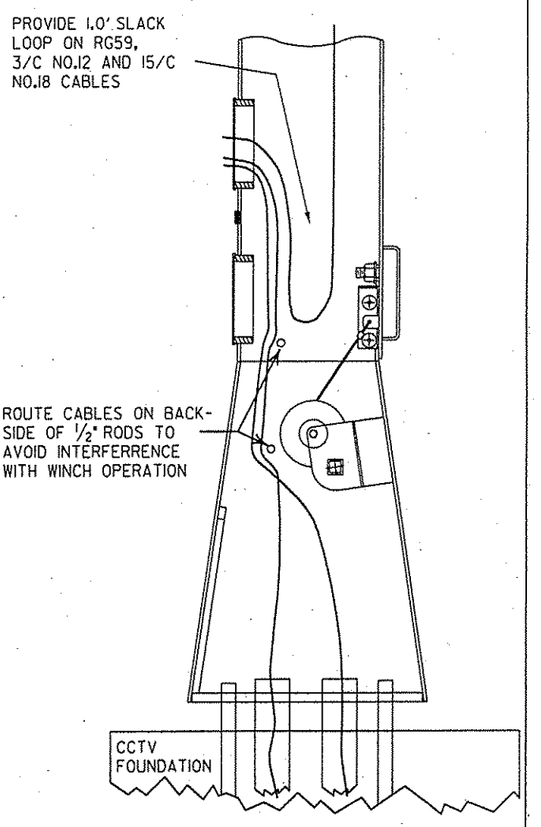
LIGHTNING ROD DETAIL



POSITION LIGHTNING ROD ASSEMBLY 90 DEGREES AWAY FROM HIGHWAY CENTERLINE, AWAY FROM CAMERAS VIEW OF TRAFFIC



CABLE ROUTING DETAIL



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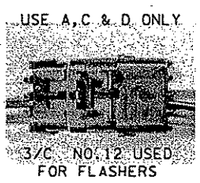
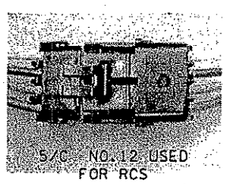
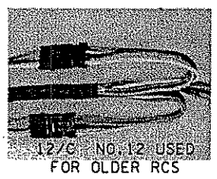
CCTV INSTALLATION DETAIL

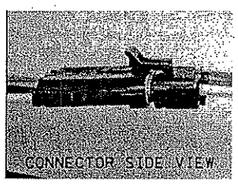
REV. NO.	1
DATE:	DATE: 07/18/02

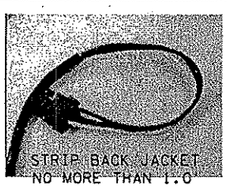

USE A,C & D ONLY

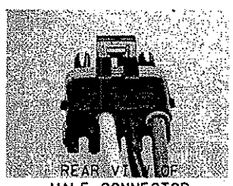
3/C NO.12 USED FOR FLASHERS

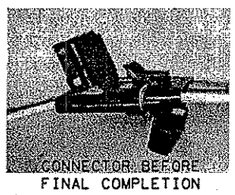

5/C NO.12 USED FOR RCS

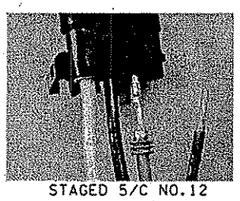

12/C NO.12 USED FOR OLDER RCS

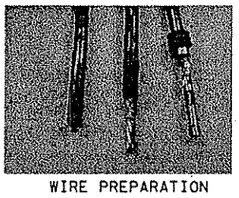

CONNECTOR SIDE VIEW


STRIP BACK JACKET NO MORE THAN 1.0

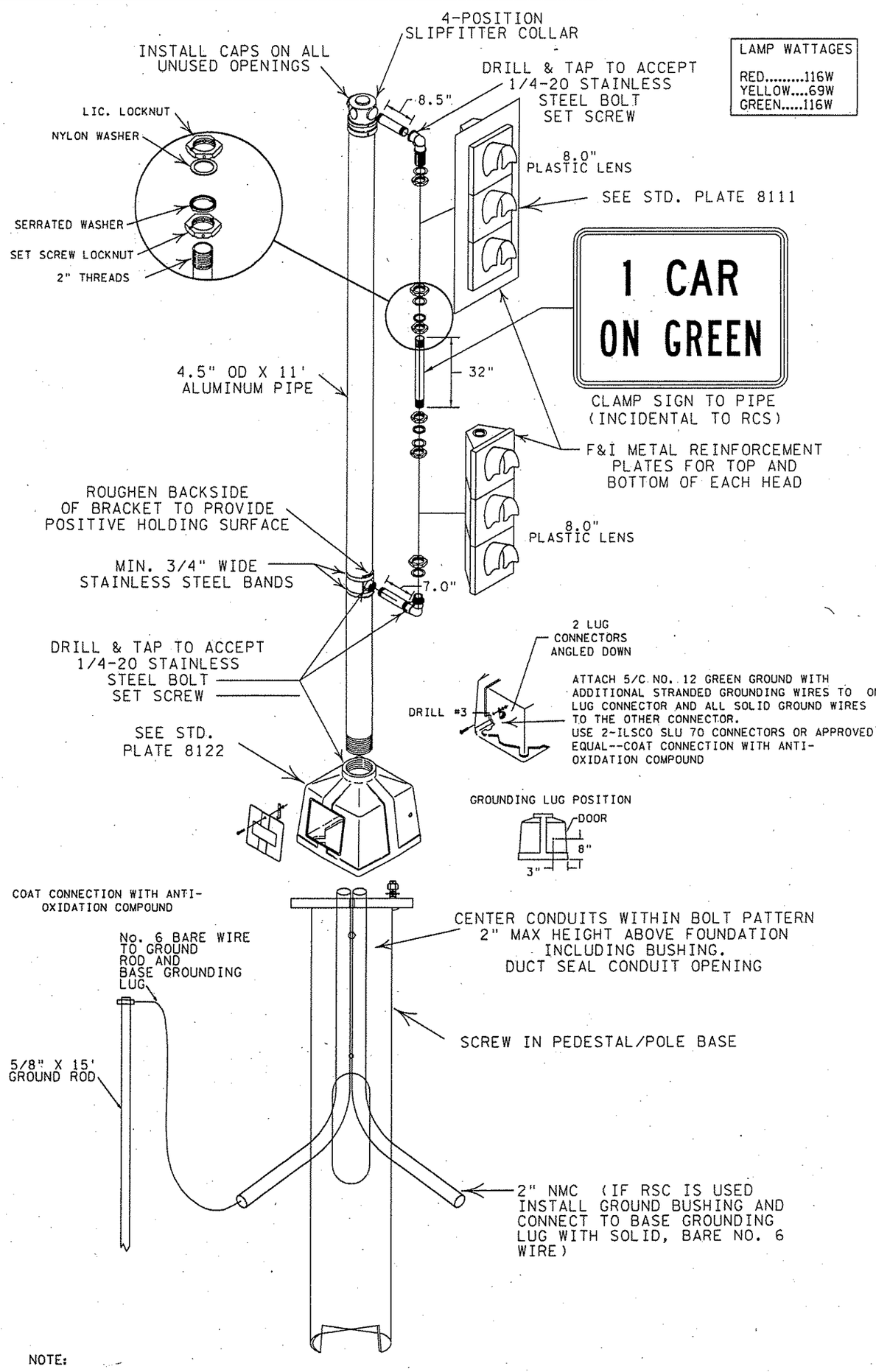

REAR VIEW OF MALE CONNECTOR


CONNECTOR BEFORE FINAL COMPLETION


STAGED 5/C NO.12


WIRE PREPARATION

CONNECTOR BODY			
A	B	C	D
RED	YELLOW/ ORANGE	BLUE/ BLACK	WHITE



LAMP WATTAGES	
RED	116W
YELLOW	69W
GREEN	116W

NOTE:

- ALL METAL FITTINGS SHALL BE ALUMINUM
- USE ANTI-SEIZE COMPOUND ON ALL THREADS PERMATEX (PASTE TYPE) PART NO. 133K IS AN APPROVED ANTI-SEIZE COMPOUND
- TURN BOTTOM SIGNAL HEAD AT A 45 DEGREE ANGLE TOWARD RAMP
- NO BACKGROUND SHIELD ON LOWER HEADS
- SIGNAL HEAD MOUNTING BRACKET PIPES SHALL BE 1.5" ALUMINUM. THREAD 2.0" MIN. ON EACH END
- PLACE RAMP METERS 5.0' BEHIND CURB OR DRIVING SURFACE
- INSTALL PEDESTAL BASE ACCESS DOOR TO DITCH SIDE OF ROADWAY
- DO NOT USE BARRIER STYLE TERMINALS IN RAMP CONTROL SIGNAL BASE
- TERMINATE 5/C NO.12 WIRING INTO SEALED CONNECTORS IN PEDESTAL BASE, USE FOLLOWING PART NUMBERS:
- DELPHI PACKARD WEATHER PACK NO. 38046 SHROUD WITH PIN 32038 (MALE PIN) AND NO. 38047 TOWER WITH PIN 32039 (FEMALE SOCKET) ALONG WITH NO. 39002 WIRE SEAL IS AN APPROVED SEALED CONNECTOR
- SIGNAL HARNESS FROM INDICATIONS SHALL BE TERMINATED WITH A SHROUD CONNECTOR
- SIGNAL WIRING FROM CABINET SHALL BE TERMINATED WITH A TOWER CONNECTOR
- IF SIGNAL HAS 1-5/C NO.12 FROM CABINET TO PEDESTAL BASE SIGNAL HEADS SHALL BE CONNECTED BY WIRING IN PARALLEL (DAISY CHAINING) BETWEEN SIGNAL HEAD TERMINALS AND RUNNING A SINGLE WIRE HARNESS TO THE PEDESTAL BASE.
- IF SIGNAL HAS 2-5/C NO.12 OR 1-12/C NO.12 FROM CABINET TO THE PEDESTAL BASE TWO WIRE HARNESSES SHALL BE RUN FROM THE SIGNAL HEADS TO THE BASE AND EACH HARNESS CONNECTED TO THE INDIVIDUAL WIRES USING THE ABOVE CONNECTORS

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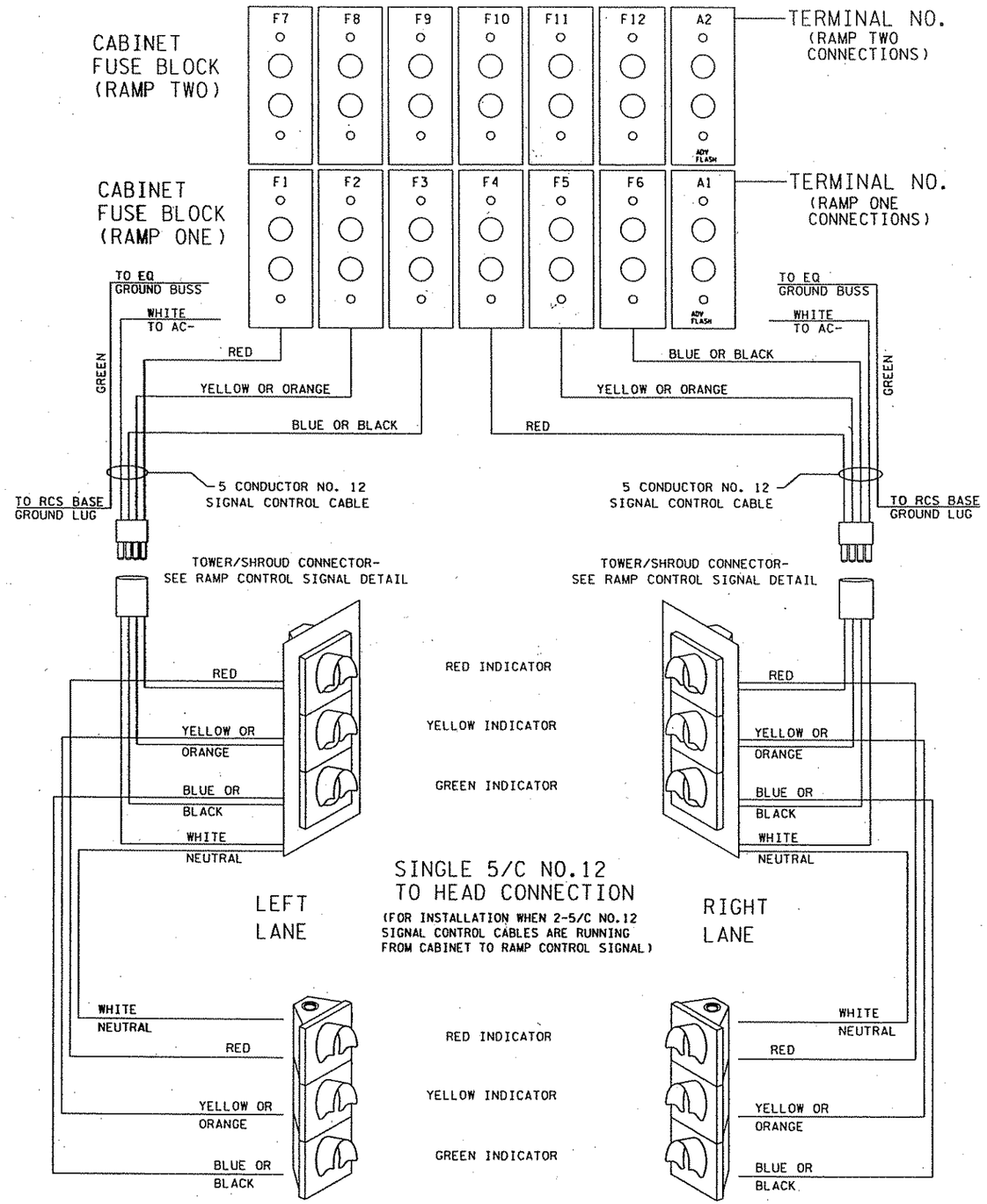
ONE-WAY RAMP CONTROL SIGNAL DETAIL



CONNECTION NOTES:

RAMPS/LOOPS TO A SOUTHBOUND OR EASTBOUND DIRECTION OF TRAVEL SHALL BE CONNECTED AS RAMP ONE.-IF BOTH A SOUTHBOUND AND EASTBOUND RAMP & LOOP, OR A RAMP AND LOOP TO THE SAME DIRECTION OF TRAVEL CONNECT TO THE SAME CABINET, THE LOOP SHALL BE CONNECTED AS RAMP ONE

RAMPS/LOOPS TO A NORTHBOUND OR WESTBOUND DIRECTION OF TRAVEL SHALL BE CONNECTED AS RAMP TWO.-IF BOTH A NORTHBOUND AND WESTBOUND RAMP & LOOP, OR A RAMP AND LOOP TO THE SAME DIRECTION OF TRAVEL CONNECT TO THE SAME CABINET, THE LOOP SHALL BE CONNECTED AS RAMP ONE

NOTE: WIRING SHOWN APPLIES TO 334Z, 334Z-94, 334Z-99 & 334Z-2000 STYLE CABINETS ONLY

SP 114-010-14, SP 01-611-29, SP 114-020-28

RAMP CONTROL SIGNAL
CONTROL CABLE TERMINATION GUIDE

REV. NO. 1	DATE: 07/18/02
REV. NO.	DATE: / /

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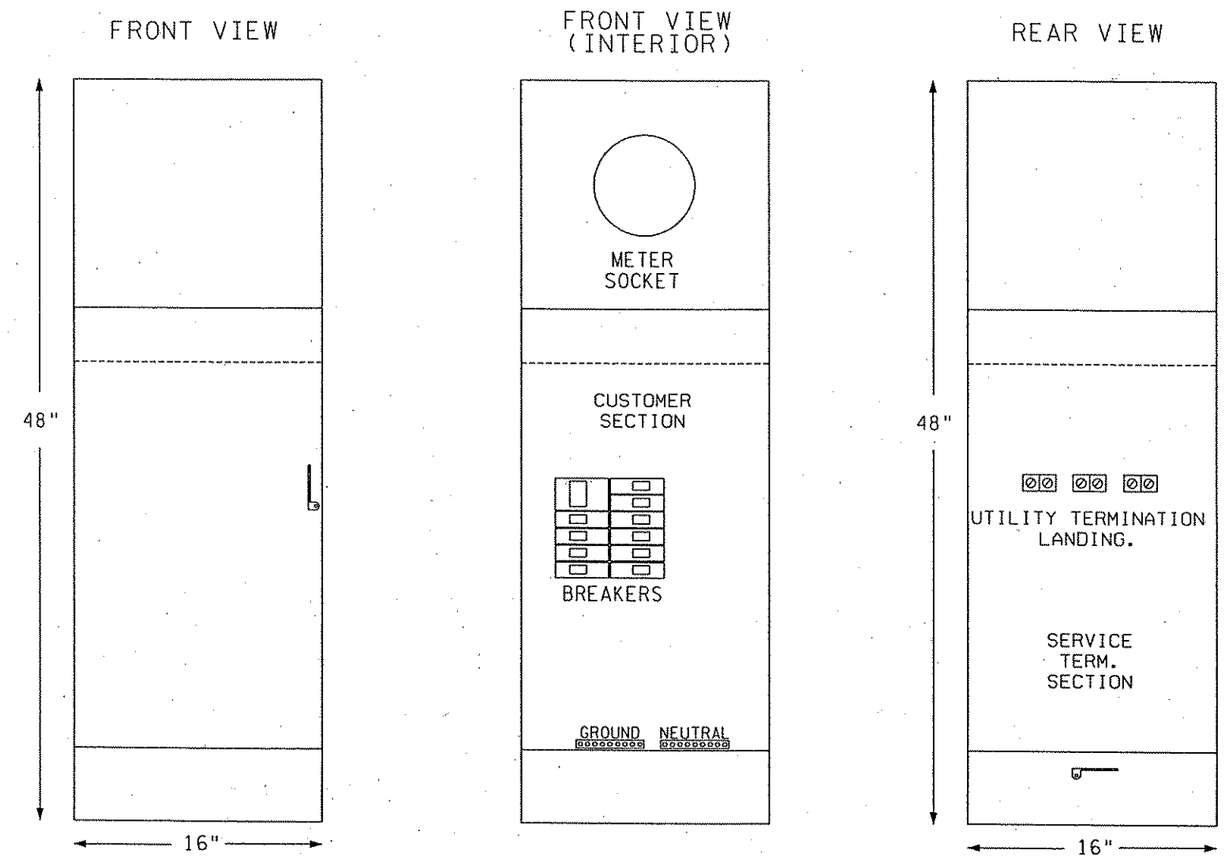
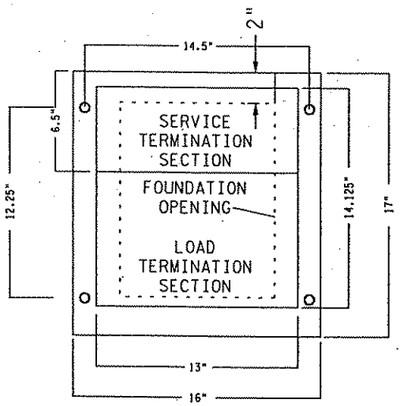
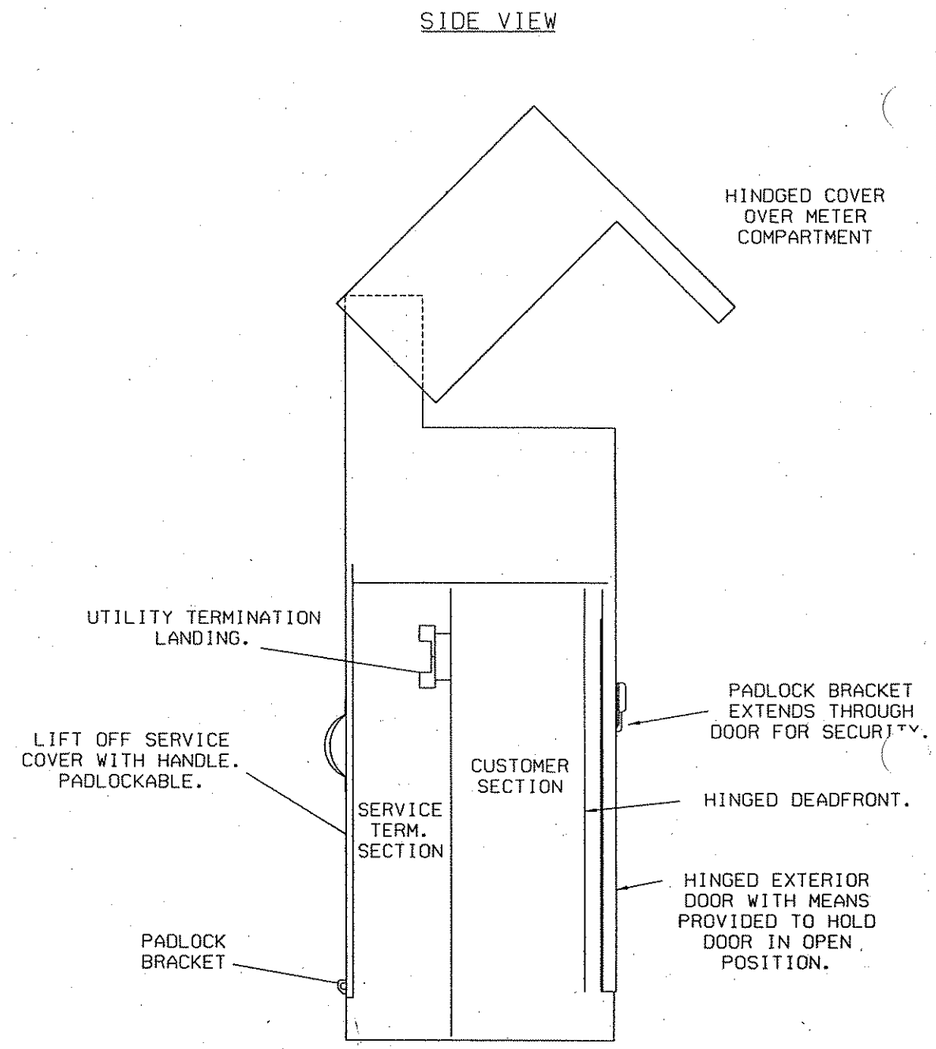
SERVICE EQUIPMENT TYPE B







CABINET CONSTRUCTION:

-NEMA3R
-1/8" ALUMINUM 5052-H32
-ANODIZED 1 HOUR CLEAR
-NEOPRENE GASKETED DOORS
-NON-CORRODING HARDWARE
-ETL LISTED IN ACCORDANCE W/UL508A

STANDARD TMS SERVICE CABINET SHALL COME EQUIPPED WITH 60A 2-P MAIN BREAKER, 1-30A CB & 1-20A CB WITH OPENINGS FOR 12 CIRCUITS TOTAL, UNLESS MODIFIED AT INDIVIDUAL LOCATIONS AS NOTED IN THE PLANS.

SERVICE EQUIPMENT TYPE B
TMS SERVICE CABINET

SP 114-010-14, SP 01-611-29, SP 114-020-28

REV. NO.	DATE: / /
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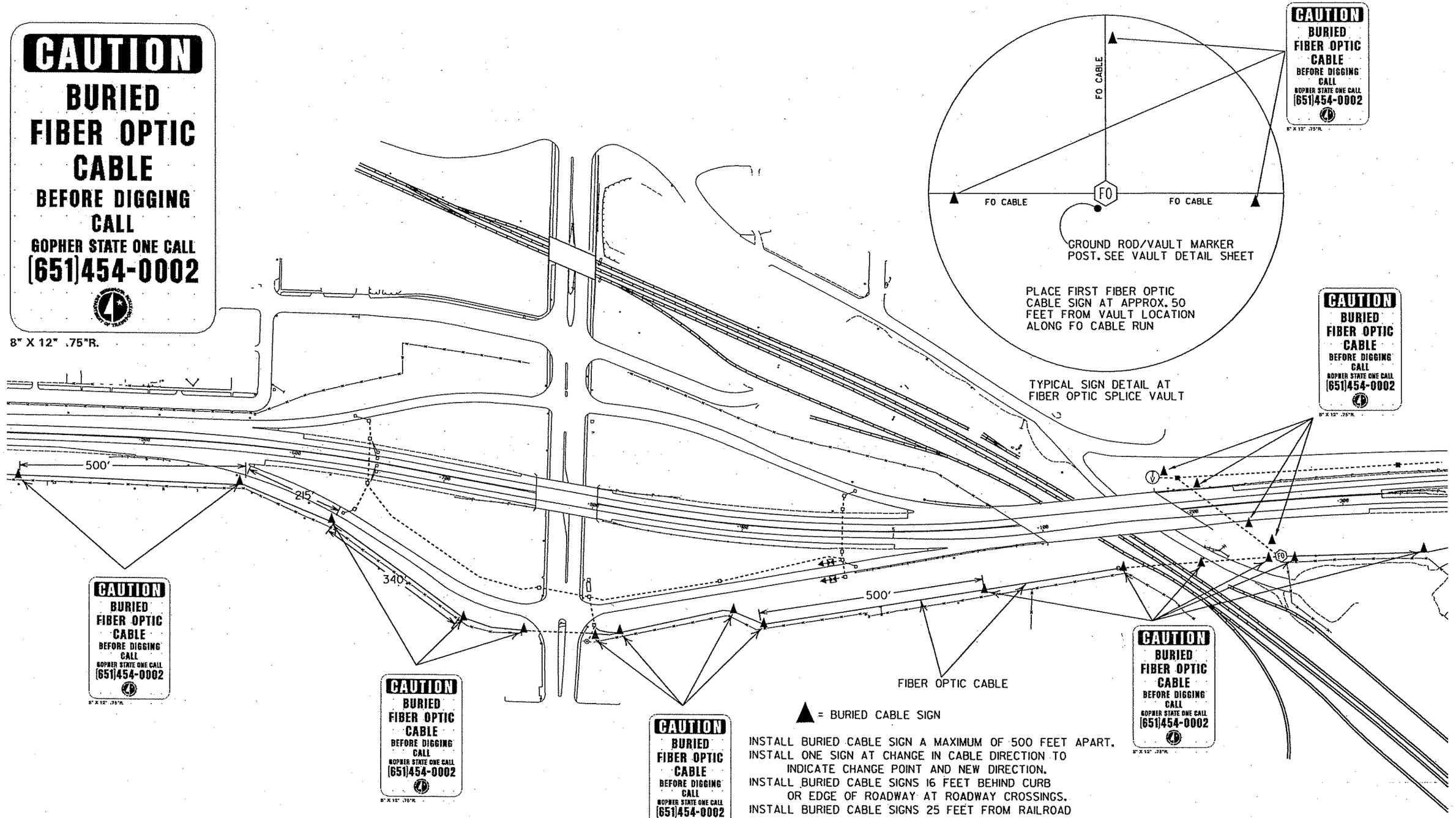

INSTALL BURIED CABLE SIGN A MAXIMUM OF 500 FEET APART.
INSTALL ONE SIGN AT CHANGE IN CABLE DIRECTION TO INDICATE CHANGE POINT AND NEW DIRECTION.
INSTALL BURIED CABLE SIGNS 16 FEET BEHIND CURB OR EDGE OF ROADWAY AT ROADWAY CROSSINGS.
INSTALL BURIED CABLE SIGNS 25 FEET FROM RAILROAD OR AS DIRECTED IN CROSSING PERMIT.
AT VAULT LOCATIONS MARKER POST IS PER VAULT DETAIL.
INSTALL ADDITION BURIED CABLE SIGN IF UNABLE TO SEE FROM SIGN TO SIGN (THIS INCLUDES CHANGES IN ELEVATION).
INSTALL BURIED CABLE SIGNS BETWEEN CABLE AND R/W FENCE, 3.0' FROM CABLE WITH SIGN PANEL PARALLEL TO BURIED CABLE

SP 114-010-14, SP 01-611-29, SP 114-020-28 BURIED CABLE SIGN PLACEMENT TYPICAL

REV. NO. 1	DATE: 06/07/00
REV. NO.	DATE: / /

CERTIFIED BY Timothy A. [signature] LICENSED PROFESSIONAL ENGINEER LIC.NO. 22498 JAN. 7 2007

STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 479 OF 681 SHEETS

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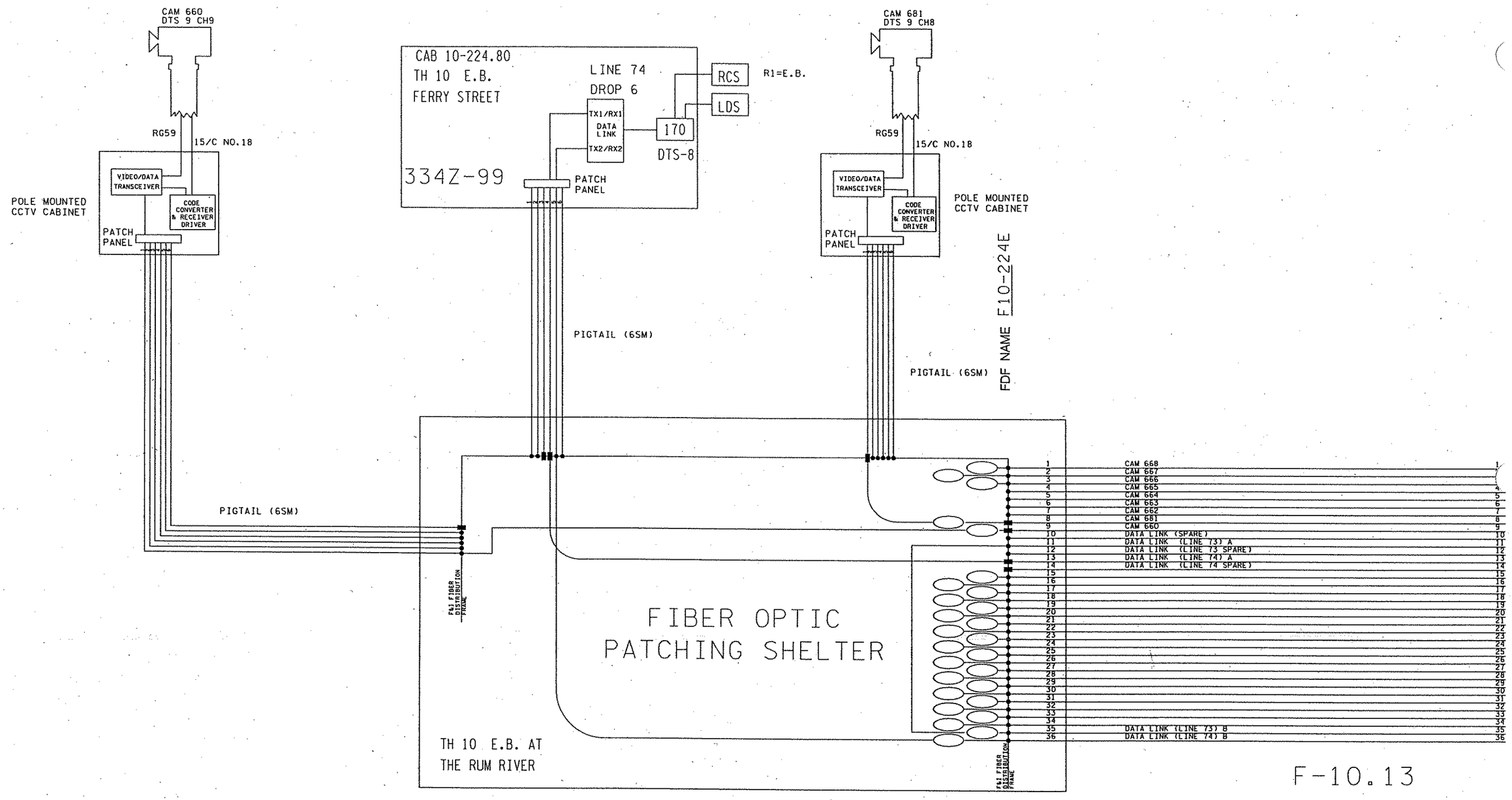


F-10.13

POWER METER TEST POINT

X.X — INSERT OPTICAL LINK LOSS IN dB (TEST MULTI MODE FIBER AT 1310) (TEST SINGLE MODE FIBER AT 1550)

FURNISHED SPLICE

.01 .01

INSERT OTDR SPLICE LOSS SHOT FROM THIS DIRECTION → ← INSERT OTDR SPLICE LOSS SHOT FROM THIS DIRECTION

SP 114-010-14, SP 01-611-29, SP 114-020-28

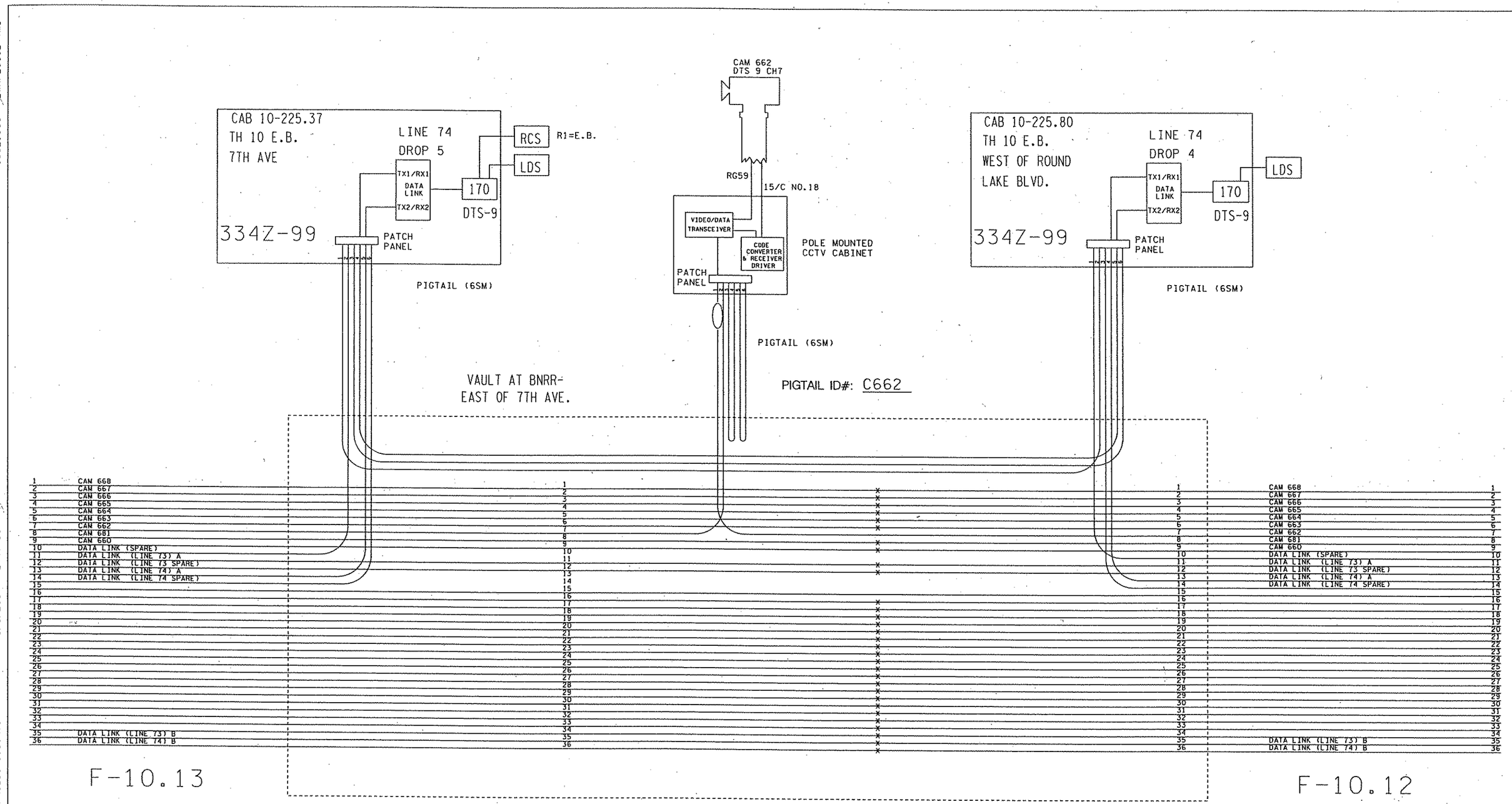
FIBER SCHEMATICS AND TESTING

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY [signature] LICENSED PROFESSIONAL ENGINEER REG.NO. 22498 JAN. 7 2007

STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 480 OF 681 SHEETS

S:\TMC\MN\F...215-59_10atHanson\0215-59SCMV8 - 1/9/2007 2:47:47 Cooz1Sc... WXPEC002 TMS



SP 114-010-14, SP 01-611-29, SP 114-020-28

FIBER SCHEMATICS AND TESTING

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY Timothy A. [signature] LICENSED PROFESSIONAL ENGINEER REG.NO. 22498 JAN. 7 2007

STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 481 OF 681 SHEETS

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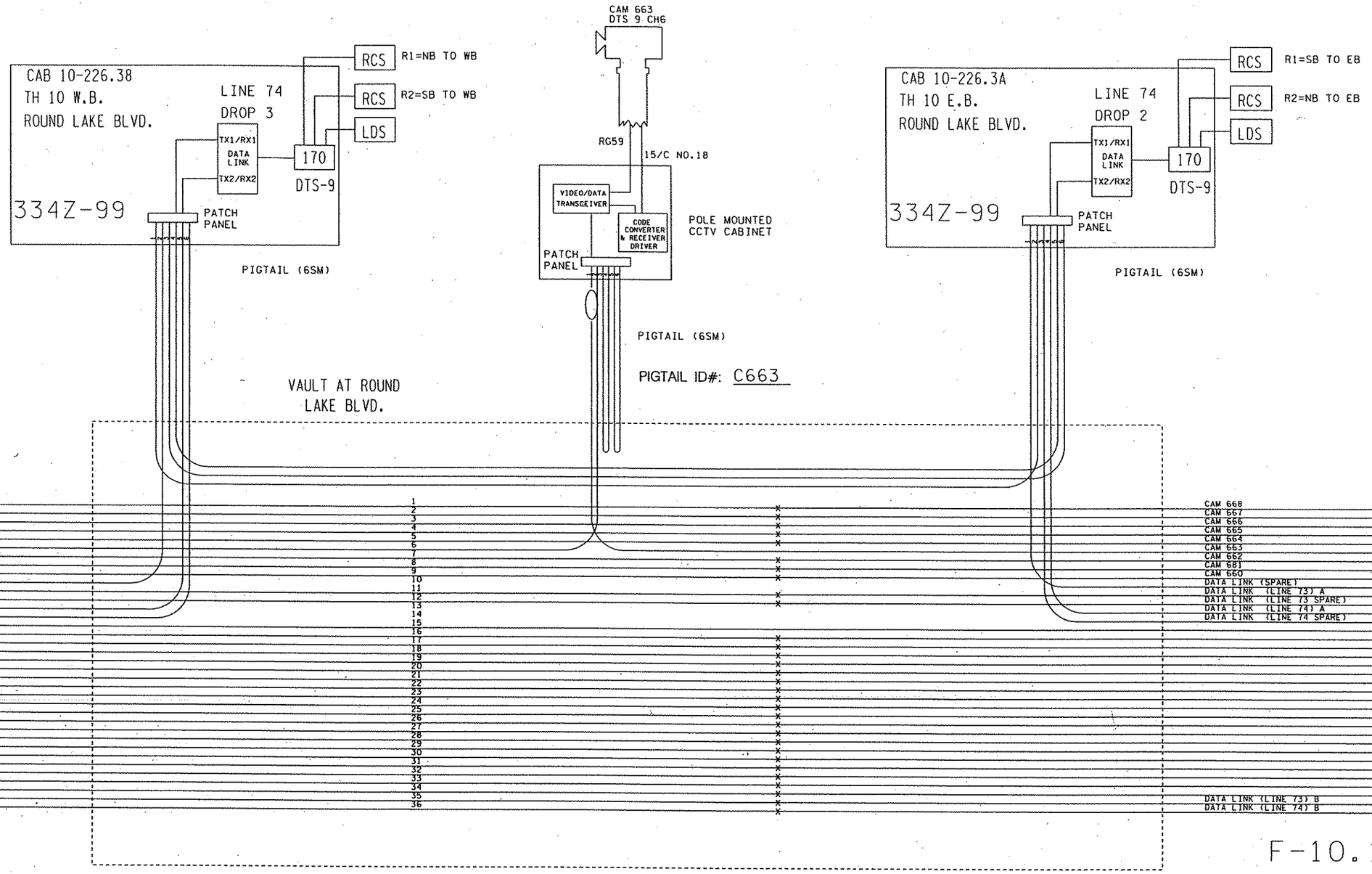
Cozis01 WXPEC002 TMS



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4	CAM 665	4		CAM 665	4
5	CAM 664	5		CAM 664	5
6	CAM 663	6		CAM 663	6
7	CAM 662	7		CAM 662	7
8	CAM 681	8		CAM 681	8
9	CAM 660	9		CAM 660	9
10	DATA LINK (SPARE)	10		DATA LINK (SPARE)	10
11	DATA LINK (LINE 73) A	11		DATA LINK (LINE 73) A	11
12	DATA LINK (LINE 73 SPARE)	12		DATA LINK (LINE 73 SPARE)	12
13	DATA LINK (LINE 74) A	13		DATA LINK (LINE 74) A	13
14	DATA LINK (LINE 74 SPARE)	14		DATA LINK (LINE 74 SPARE)	14
15		15			15
16		16			16
17		17	X		17
18		18	X		18
19		19	X		19
20		20	X		20
21		21	X		21
22		22	X		22
23		23	X		23
24		24	X		24
25		25	X		25
26		26	X		26
27		27	X		27
28		28	X		28
29		29	X		29
30		30	X		30
31		31	X		31
32		32	X		32
33		33	X		33
34		34	X		34
35	DATA LINK (LINE 73) B	35	X	DATA LINK (LINE 73) B	35
36	DATA LINK (LINE 74) B	36	X	DATA LINK (LINE 74) B	36

F-10.12

F-10.11

X.X POWER METER TEST POINT
INSERT OPTICAL LINK LOSS IN dB
(TEST MULTI MODE FIBER AT 1310)
(TEST SINGLE MODE FIBER AT 1550)

FURNISHED SPLICE

INSERT OTDR SPLICE LOSS SHOT FROM THIS DIRECTION →
← INSERT OTDR SPLICE LOSS SHOT FROM THIS DIRECTION

SP 114-010-14, SP 01-611-29, SP 114-020-28

FIBER SCHEMATICS AND TESTING

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY _____ REG.NO. 22498 JAN. 7 2007
LICENSED PROFESSIONAL ENGINEER

STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 482 OF 681 SHEETS

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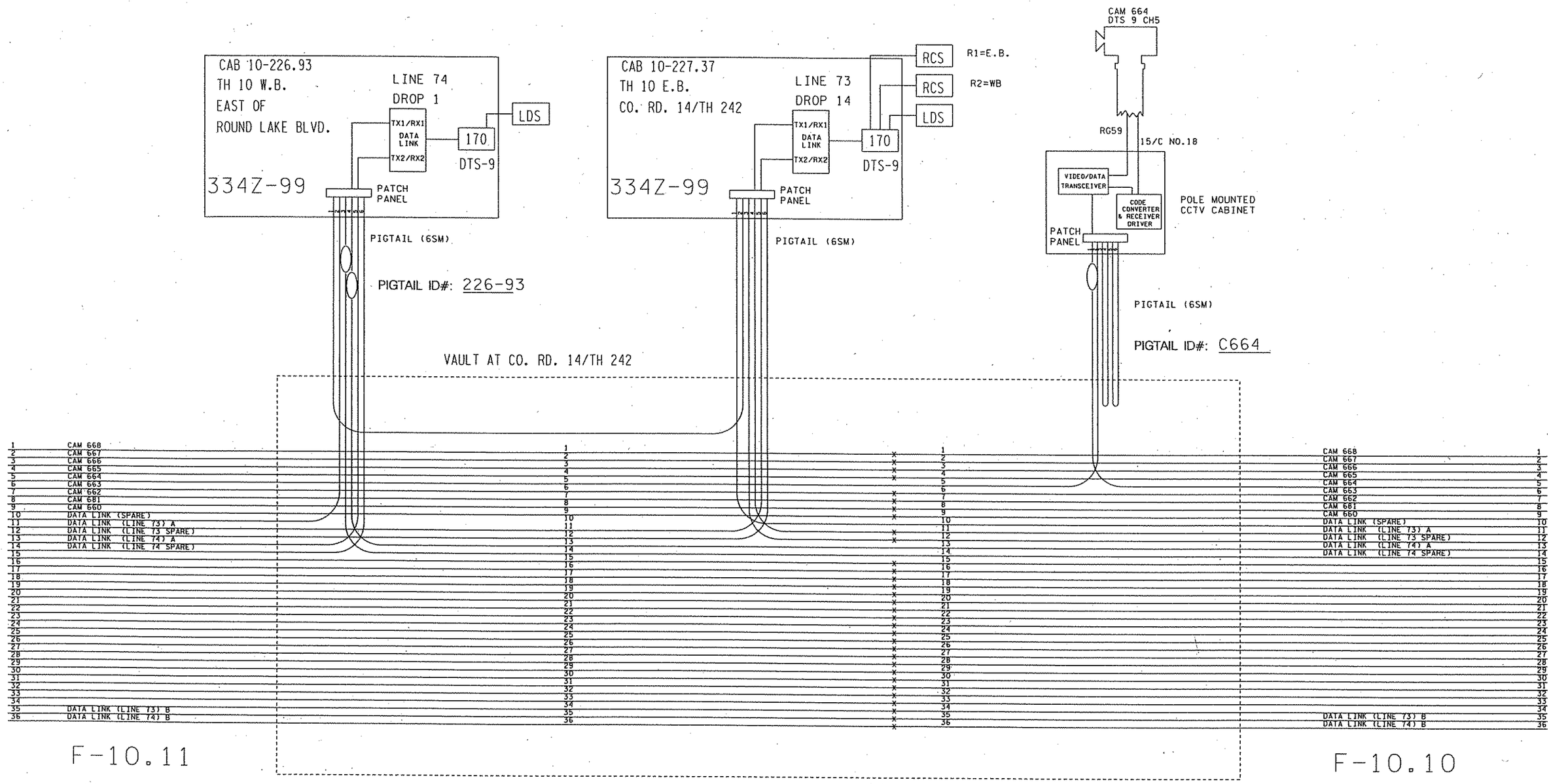

POWER METER TEST POINT

X.X — INSERT OPTICAL LINK LOSS IN dB (TEST MULTI MODE FIBER AT 1310) (TEST SINGLE MODE FIBER AT 1550)

FURNISHED SPLICE

.01 .01

INSERT OTDR SPLICE LOSS SHOT FROM THIS DIRECTION → ← INSERT OTDR SPLICE LOSS SHOT FROM THIS DIRECTION

SP 114-010-14, SP 01-611-29, SP 114-020-28

FIBER SCHEMATICS AND TESTING

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY [signature] LICENSED PROFESSIONAL ENGINEER REG.NO. 22498 JAN. 7 2007

STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 483 OF 681 SHEETS

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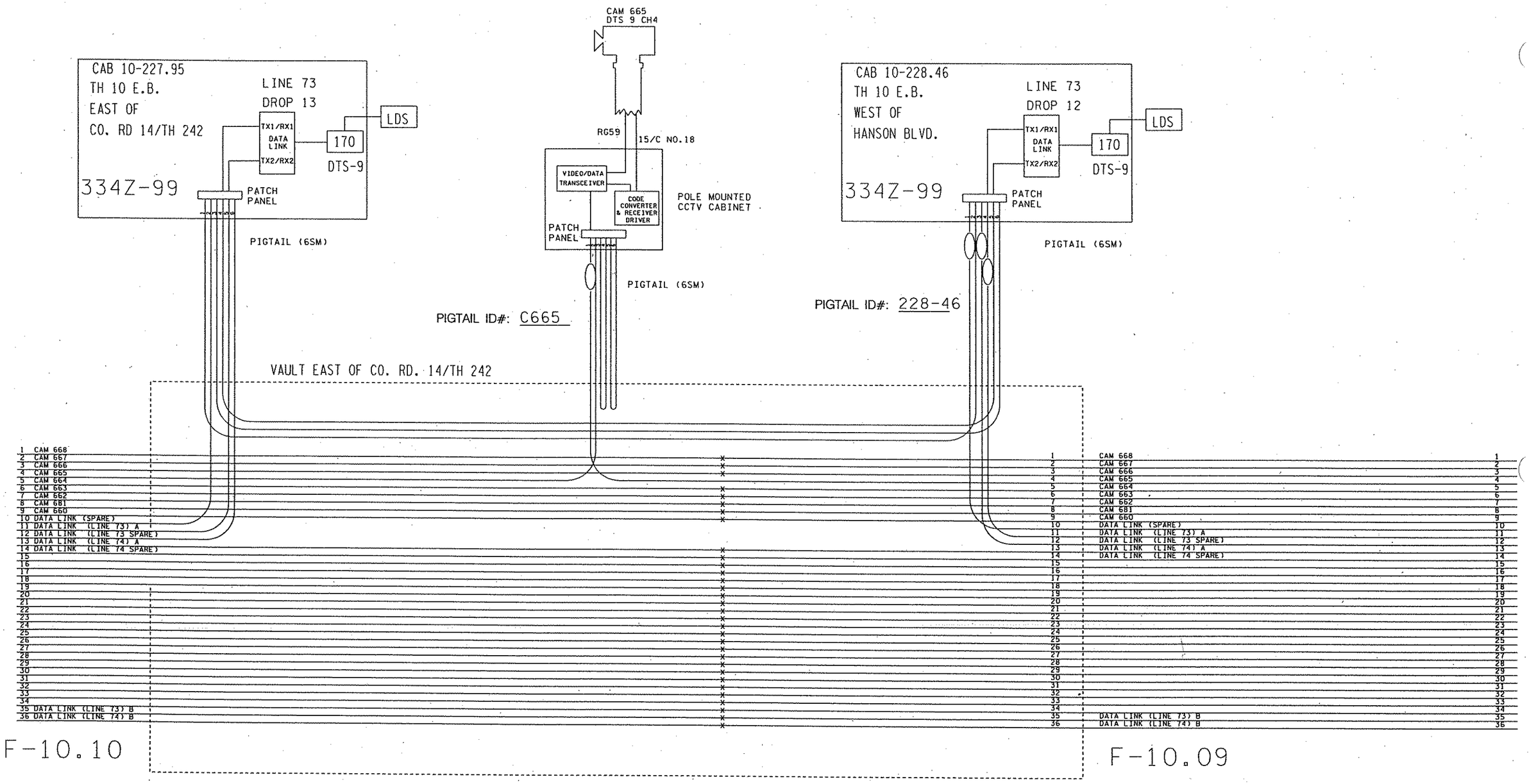

X.X POWER METER TEST POINT
INSERT OPTICAL LINK LOSS IN dB
(TEST MULTI MODE FIBER AT 1310)
(TEST SINGLE MODE FIBER AT 1550)

FURNISHED SPLICE
.01 .01
INSERT OTDR SPLICE LOSS — SHOT FROM THIS DIRECTION
INSERT OTDR SPLICE LOSS — SHOT FROM THIS DIRECTION

SP 114-010-14, SP 01-611-29, SP 114-020-28

FIBER SCHEMATICS AND TESTING

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY [signature] LICENSED PROFESSIONAL ENGINEER REG.NO. 22498 JAN. 7 2007

STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 484 OF 681 SHEETS

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C0021SGL .WXPEC002 TMS
S:\TMC\MN\F 215-59_10atHanson\0215-59SCMV8 - 1/9/2007 2:48:16

CAM 666
DTS 9 CH3

RG59
15/C NO.18

VIDEO/DATA TRANSCEIVER
CODE CONVERTER & RECEIVER DRIVER
PATCH PANEL
POLE MOUNTED CCTV CABINET

INDEX OF REFRACTION

FO PIGTAIL LENGTH ____ m BEGIN
____ m END

F&I FO PIGTAIL (6SM)

PIGTAIL ID#: C666

CAB 10-229.2
TH 10 E.B.
HANSON BLVD.

334Z-99

LINE 73
DROP 11

TX1/RX1
DATA LINK
TX2/RX2
170
DTS-9

RCS R1=EB
RCS R2=WB
LDS

PATCH PANEL
24 POS. PATCH PANEL (BY MNDOT)

F&I FO PIGTAIL (12SM)

INDEX OF REFRACTION

FO PIGTAIL LENGTH ____ m BEGIN
____ m END

PIGTAIL ID#: 229-2

F&I VAULT EAST OF HANSON BLVD.

CAB 10-229.64
TH 10 E.B.
EAST OF HANSON

334Z-99

LINE 73
DROP 10

TX1/RX1
DATA LINK
TX2/RX2
170
DTS-9

LDS

PATCH PANEL

FO PIGTAIL (6SM)

PIGTAIL ID#: 229-64

F&I VAULT WEST OF HANSON

1	CAM 668	1	1
2	CAM 667	2	2
3	CAM 666	3	3
4	CAM 665	4	4
5	CAM 664	5	5
6	CAM 663	6	6
7	CAM 662	7	7
8	CAM 661	8	8
9	CAM 660	9	9
10	DATA LINK (SPARE)	10	10
11	DATA LINK (LINE 73) A	11	11
12	DATA LINK (LINE 73 SPARE)	12	12
13	DATA LINK (LINE 74) A	13	13
14	DATA LINK (LINE 74 SPARE)	14	14
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16		16	16
17		17	17
18		18	18
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30		30	30
31		31	31
32		32	32
33		33	33
34		34	34
35	DATA LINK (LINE 73) B	35	35
36	DATA LINK (LINE 74) B	36	36

F-10.09

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6	CAM 663	6	6
7	CAM 662	7	7
8	CAM 661	8	8
9	CAM 660	9	9
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12	DATA LINK (LINE 73 SPARE)	12	12
13	DATA LINK (LINE 74) A	13	13
14	DATA LINK (LINE 74 SPARE)	14	14
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32		32	32
33		33	33
34		34	34
35	DATA LINK (LINE 73) B	35	35
36	DATA LINK (LINE 74) B	36	36

F-10.08A

X.X
POWER METER TEST POINT
INSERT OPTICAL LINK LOSS IN dB
(TEST MULTI MODE FIBER AT 1310)
(TEST SINGLE MODE FIBER AT 1550)

FURNISHED SPLICE

.01 / .01

INSERT OTDR SPLICE LOSS SHOT FROM THIS DIRECTION →
← INSERT OTDR SPLICE LOSS SHOT FROM THIS DIRECTION

FO CABLE LENGTH ____ m BEGIN
____ m END

F-10.08B

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY _____ REG.NO. 22498 JAN. 7 2007
LICENSED PROFESSIONAL ENGINEER

SP 114-010-14, SP 01-611-29, SP 114-020-28

FIBER SCHEMATICS AND TESTING

STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 485 OF 681 SHEETS

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TEST EQUIPTMENT/
CAMERA LOCATION

12.2 m WOOD POLE

334 CAB.
SHELL

RG59

15/C NO.18

PATCH
PANEL

LDS

LDS

170 DTS-9

LINE 73
DROP 9

TX1/RX1
DATA
LINK
TX2/RX2

334Z-99
RACK

1	CAM 668	1	CAM 668
2	CAM 667	2	CAM 667
3	CAM 666	3	CAM 666
4	CAM 665	4	CAM 665
5	CAM 664	5	CAM 664
6	CAM 663	6	CAM 663
7	CAM 662	7	CAM 662
8	CAM 681	8	CAM 681
9	CAM 660	9	CAM 660
10	DATA LINK (SPARE)	10	DATA LINK (SPARE)
11	DATA LINK (LINE 73) A	11	DATA LINK (LINE 73) A
12	DATA LINK (LINE 73 SPARE)	12	DATA LINK (LINE 73 SPARE)
13	DATA LINK (LINE 74) A	13	DATA LINK (LINE 74) A
14	DATA LINK (LINE 74 SPARE)	14	DATA LINK (LINE 74 SPARE)
15		15	DATA LINK (OH 55-10, 56-10) (LINE 72) A
16		16	DATA LINK (OH 55-10, 56-10) (LINE 72) SPARE
17		17	DATA LINK (OH 55-10, 56-10) SPARE
18		18	
19		19	
20		20	
21		21	
22		22	
23		23	
24		24	
25		25	
26		26	
27		27	
28		28	
29		29	
30		30	
31		31	
32		32	
33		33	
34		34	DATA LINK (LINE 72) B
35	DATA LINK (LINE 73) B	35	DATA LINK (LINE 73) B
36	DATA LINK (LINE 74) B	36	DATA LINK (LINE 74) B

F11 FIBER DISTRIBUTION FRAME

F12 FIBER DISTRIBUTION FRAME

TH 10-230.10
TH 10 W.B. AT
COON CREEK

F-10.08A

FIBER OPTIC PATCHING SHELTER

F-10.07

FDF NAME F10-230W

X.X POWER METER TEST POINT
INSERT OPTICAL LINK LOSS IN dB
(TEST MULTI MODE FIBER AT 1310)
(TEST SINGLE MODE FIBER AT 1550)

FURNISHED SPLICE

01/01

INSERT OTDR SPLICE LOSS SHOT FROM THIS DIRECTION →

← INSERT OTDR SPLICE LOSS SHOT FROM THIS DIRECTION

SP 114-010-14, SP 01-611-29, SP 114-020-28

FIBER SCHEMATICS
AND TESTING

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY _____ REG.NO. 22498 JAN. 7 2007
LICENSED PROFESSIONAL ENGINEER

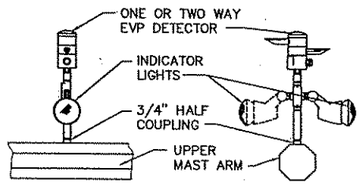
STATE PROJ. NO. 0215-59 (TH 10) SHEET NO. 486 OF 681 SHEETS

TRAFFIC CONTROL SIGNAL SYSTEMS AND INTERCONNECT AT THE INTERSECTION OF TH 10 AT HANSON BLVD. IN THE CITY OF COON RAPIDS, ANOKA COUNTY

TABULATED QUANTITIES CHART

ITEM DESCRIPTION	UNIT	S.P. 0215-59 S.P. 114-010-14	S.P. 02-611-29 S.P. 114-020-28	S.P. 02-678-17 S.P. 114-020-28	LOCAL NON-PARTICIPATING	C.P. 01-31	TOTAL PROJECT QUANTITIES
Traffic Control Signal System A	System		1.00				1.00
Traffic Control Signal System B	System	1.00					1.00
Traffic Control Signal System C	System		0.50	0.25	0.25		1.00
Traffic Control Interconnection	Lump Sum	0.46	0.46	0.08			1.00
Salvage Signal System A	Lump Sum	1.00					1.00
Salvage Signal System B	Lump Sum	1.00					1.00
Temporary Signal System	System		1.00				1.00

EVP DETECTOR & LIGHT MOUNTING DETAIL ON MAST ARM



FRONT VIEW SIDE VIEW

ABBREVIATIONS

3-1(EG)	SIGNAL HEAD PHASE "3" - NO "1"	P2-1(EG)	PED INDICATION PHASE "2" - NO. "1"
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB2-1(EG)	PUSH BUTTON PHASE "2" - NO. "1"
CLR	CLEAR	PEC	PHOTOELECTRIC CELL
D2-1(EG)	DETECTOR PHASE "2" - NO. "1"	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EQG	EQUIPMENT GROUND	R&S	REMOVE AND SALVAGE
EVP	EMERGENCY VEHICLE PRE-EMPTION	RLTA	RED LEFT TURN ARROW
F & I	FURNISH AND INSTALL	RRTA	RED RIGHT TURN ARROW
FL	FLASH/FLASHING	RSC	RIGID STEEL CONDUIT
G	GREEN	SOP	SOURCE OF POWER
GLTA	GREEN LEFT TURN ARROW	SPR	SPARE
GRN	GREEN	ST. LHT	STREET LIGHT
GR. R	GROUND ROD	STA	STATION
GRTA	GREEN RIGHT TURN ARROW	SW	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	TDW	TELEPHONE DROP WIRE
JB	JUNCTION BOX	WLK	WALK
LUM	LUMINAIRE	YEL	YELLOW
NEU	NEUTRAL	YLTA	YELLOW LEFT TURN ARROW
NMC	NONMETALLIC CONDUIT	YRTA	YELLOW RIGHT TURN ARROW
MPH	MILES PER HOUR	YTHA	YELLOW THRU ARROW
PSF	POUNDS PER SQUARE FOOT		
PSI	POUNDS PER SQUARE INCH		

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQUIP. NO's
SIGNAL BASE NO.
SIGNAL FACE NO.
LUMINAIRE NO.
CONTROLLER AND CABINET
CONTROLLER AND CABINET - IN PLACE
HANDHOLE
HANDHOLE - IN PLACE
RIGID STEEL CONDUIT (RSC)
RIGID STEEL CONDUIT (RSC) - IN PLACE
SIGNAL FACE WITH BACKGROUND SHIELD
SIGNAL FACE - IN PLACE
PEDESTRIAN INDICATORS
PEDESTRIAN INDICATORS - IN PLACE
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE
PEDESTRIAN PUSH BUTTON STATION
TRAFFIC SIGNAL PEDESTAL
TRAFFIC SIGNAL PEDESTAL - INPLACE
TRAFFIC SIGNAL POLE AND MAST ARM
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE
STREET LIGHT POLE AND LUMINAIRE
STREET LIGHT POLE AND LUMINAIRE - IN PLACE
MAST ARM AND LUMINAIRE
MAST ARM AND LUMINAIRE - INPLACE
WOOD POLE
WOOD POLE - IN PLACE
SOURCE OF POWER
RAILROAD SIGNAL - IN PLACE
RIGHT OF WAY LINE
CENTERLINE
EDGE OF ROADWAY
SHOULDERLINE
CURB LINE
STOP BAR
EMERGENCY VEHICLE PREEMPTION DETECTOR & LIGHT
MICROWAVE DETECTION
SONIC DETECTION

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS | DESIGN BY: MRA/YF
CHKED. BY: AJW/JFC | DWG. NAME: 042-TS26
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

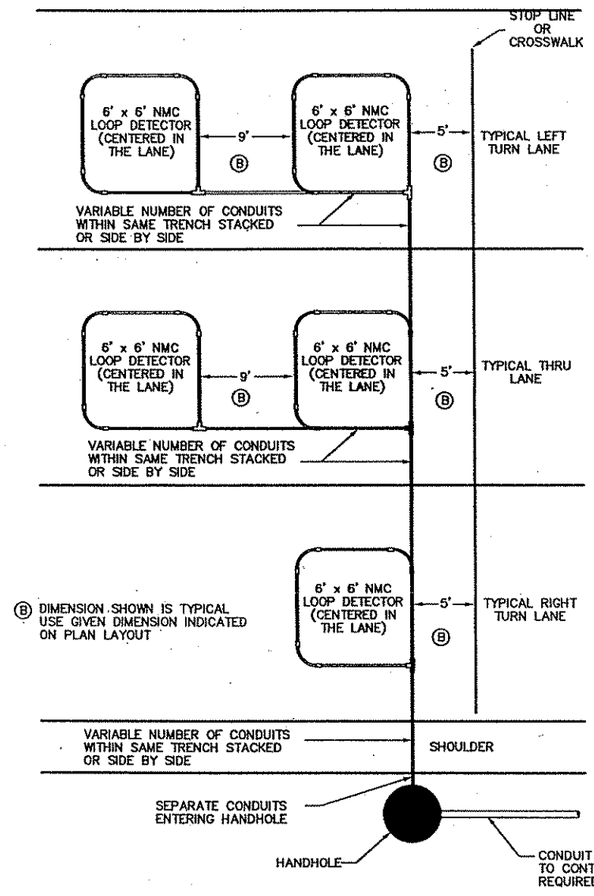
TABULATION, STANDARD PLATES AND SYMBOLS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 487 / 681

PLOT DATE: Ja... 4, 2007 11:21am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\0... 326.dwg

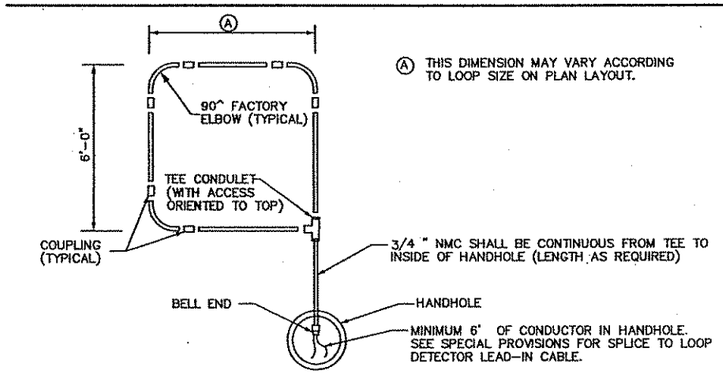
TYPICAL CROSS STREET NMC LOOP DETECTOR LAYOUT



NOTES:

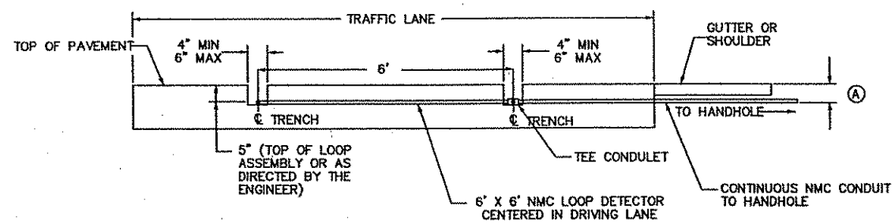
1. ROADWAY LOOP DETECTOR CONDUCTORS AND LOOP DETECTOR LEAD IN CABLES SHALL BE IN ACCORDANCE WITH MN/DOT SPEC 3815.
2. THE 3/4" NON-METALLIC CONDUIT (NMC) AND FITTINGS SHALL BE SCHEDULE 40 HEAVY WALL RIGID POLYVINYL CHLORIDE (PVC). SEE SPEC. 3803.
3. THREE CORNERS OF EACH LOOP DETECTOR SHALL BE A 90° FACTORY ELBOW (6" RADIUS). THE FOURTH SHALL BE AN NMC TEE CONDULET.
4. APPROVED PVC PRIMER AND CEMENT SHALL BE USED FOR THE PVC JOINTS.
5. ALL SLACK MUST BE REMOVED FROM LOOP DETECTOR CONDUCTORS WITHIN THE NMC.
6. THE ROADWAY LOOP DETECTOR CONDUCTORS (1/C#14) SHALL BE TWISTED THREE TURNS PER FOOT FROM THE NMC TEE CONDULET TO THE HANDHOLE.
7. ATTACH A FERROUS METAL ITEM IN OR ADJACENT TO THE TEE CONDULET COVER OR AS DIRECTED BY THE ENGINEER.
8. EACH LOOP DETECTOR CONDUIT TO THE HANDHOLE SHALL BE SLOPED TOWARDS THE HANDHOLE.
9. LOOP DETECTOR CONDUITS TO THE HANDHOLE MAY BE PLACED WITHIN THE SAME TRENCH.
10. THE LOOP DETECTOR ROADWAY CONDUCTORS SHALL EXTEND 6' TO 10' INTO THE HAND HOLE FOR SPLICING.
11. NO SPLICES ALLOWED IN CONDUIT.
12. THE LOOP DETECTOR ROADWAY CONDUCTORS AND THE LOOP DETECTOR LEAD-IN CABLE CONDUCTORS SHALL BE PROPERLY PREPARED AND CLEANED BEFORE SPLICING.
13. SPLICE KITS SHALL BE INSTALLED IN HANDHOLES IN SUCH A MANNER AS TO ENSURE THAT EACH SPLICE KIT IS SUSPENDED AND/OR SECURED NEAR THE TOP OF THE HANDHOLE TO THE SATISFACTION OF THE ENGINEER. (PLACING SPLICE KITS ON TOP OF THE ELECTRICAL CABLES AND CONDUCTORS IS NOT ACCEPTABLE).
14. TYPICAL SIZE OF LOOP DETECTORS ARE 6' x 6' AND 6' x 10'. REFER TO INTERSECTION LAYOUT FOR SPECIFIC LOOP DETECTORS TO BE PLACED.
15. ALL LOOP DETECTORS SHALL HAVE 4 TURNS OF CONDUCTORS.
16. SEE SPECIAL PROVISIONS FOR APPROVED SPLICE KITS.
17. PRIOR TO INSTALLING THE APROVED SPLICE KIT, THE CONTRACTOR SHALL SOLDER THE ENDS OF THE LOOP DETECTOR LEAD IN CONDUCTOR AND SHALL FURNISH AND INSTALL AN APPROPRIATE SIZED WIRE NUT TO THE SOLDERED ENDS PRIOR TO THE INSTALLATION OF THE SPLICE KITS.
18. IF BENDING OF THE NMC LOOP LEAD-IN IS REQUIRED, AN APPROPRIATE HEATING BLANKET OR DEVICE APPROVED BY THE ENGINEER SHALL BE USED. EXPOSED FLAME OR TORCHES ARE NOT ALLOWED.

TYPICAL NMC LOOP DETECTOR DETAIL



TYPICAL NMC LOOP DETECTOR INSTALLATION

INPLACE PAVEMENT



ⒶVARIABLE DEPTH; MAINTAIN DRAINAGE TO HAND HOLE

NOTES:

1. USE THE LOOP DETECTOR TO BE INSTALLED FOR THE PURPOSE OF MARKING THE PAVEMENT LOCATION FOR THE MILLING OPERATION.
2. TO ACHIEVE FULL TRENCH DEPTH FOR CONDUIT PLACEMENT, MILL BEYOND THE DESIRED PAVEMENT MARKING.
3. PROVIDE A MINIMUM 5" CLEARANCE, MEASURED FROM THE TOP OF THE FINISHED PAVEMENT TO HIGHEST POINT OF LOOP ASSEMBLY (INCLUDING CONDULET).
4. AN AIR COMPRESSOR UNIT (50 HP) IS REQUIRED FOR REMOVING ALL LOOSE MATERIAL FROM TRENCH PRIOR TO TACK COAT APPLICATION.
5. APPLY A TACK COAT AT A UNIFORM RATE TO THE BOTTOM AND EDGES OF THE MILLED AREA. USE AN EMULSIFIED ASPHALT PER SPEC. 2357.2A
6. MIXTURE USED TO FILL THE RETROFIT LOOP DETECTOR TRENCHES SHALL MEET THE REQUIREMENTS OF MNDOT SPECIFICATION 2350 OR 2360. AGGREGATE SIZE 3 OR 4 WILL BE ALLOWED WHEN 2350 IS UTILIZED AND AGGREGATE SIZE A OR B WILL BE ALLOWED WHEN 2360 IS UTILIZED. OTHER WEARING COURSE MIXTURE TYPES ARE ALLOWED WHEN APPROVED BY THE ENGINEER.
7. THE USE OF PETROLEUM DISTILLATES AS AN ANTI-ADHESIVE AGENT IS NOT ALLOWED. REFER TO MN/DOT TECH. MEMO NO. 94-16-MRE-05 DATED 3/10/94 FOR ADDITIONAL INFORMATION.
8. COMPACTION SHALL BE OBTAINED BY THE ORDINARY COMPACTION METHOD. BACKFILL THE TRENCH WITH A MINIMUM OF TWO LIFTS AND COMPACT EACH LIFT. BEFORE COMPACTING THE FIRST LIFT ENSURE THAT THERE IS ADEQUATE MIXTURE ON EACH SIDE AND ABOVE THE CONDUIT SO THAT THE CONDUIT IS NOT DAMAGED DURING COMPACTION OPERATIONS.
9. THE COMPACTED MIXTURE IN THE TRENCH SHOULD BE LEFT 1/4 " TO 1/2 " ABOVE THE ADJACENT PAVEMENT SURFACE TO PROVIDE FOR ADDITIONAL COMPACTION BY TRAFFIC.
10. APPLY A BITUMINOUS FOG SEAL ON THE NEWLY COMPACTED MIXTURE TO PROVIDE AN ADDITIONAL SURFACE SEAL (EMULSIFIED ASPHALT 2355.2A). DRY SAND SHALL BE SPREAD ON THE FOG SEAL TO PREVENT MATERIAL PICKUP AND TRACKING.
11. WHEN INSTALLING NMC LOOPS INTO PRE-ROADWAY AGGREGATE BASE, DEPTH OF TOP OF CONDUIT TO TOP OF AGGREGATE SHALL NOT EXCEED 2".
12. WHEN LOOP DETECTORS ARE MILLED INTO CONCRETE SURFACES, THE TRENCHES SHALL BE FILLED USING A GROUTING MATERIAL WHICH MEETS Mn/DOT SPEC 2520 OR OTHER MATERIAL AS APPROVED BY THE ENGINEER. BITUMINOUS FILL IS ACCEPTABLE WHEN OVERLAYING CONCRETE TRENCHES.
13. MILLING IS REQUIRED FOR ALL NMC LOOP INSTALLATIONS. WHEN LOOPS ARE MILLED INTO EXISTING MILLED SURFACE THAT WILL BE OVERLAYED WITH BITUMINOUS, THE MINIMUM TRENCH DEPTH SHALL BE NO LESS THAN THE HIGHEST LOOP ASSEMBLY IN THE TRENCH.

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URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

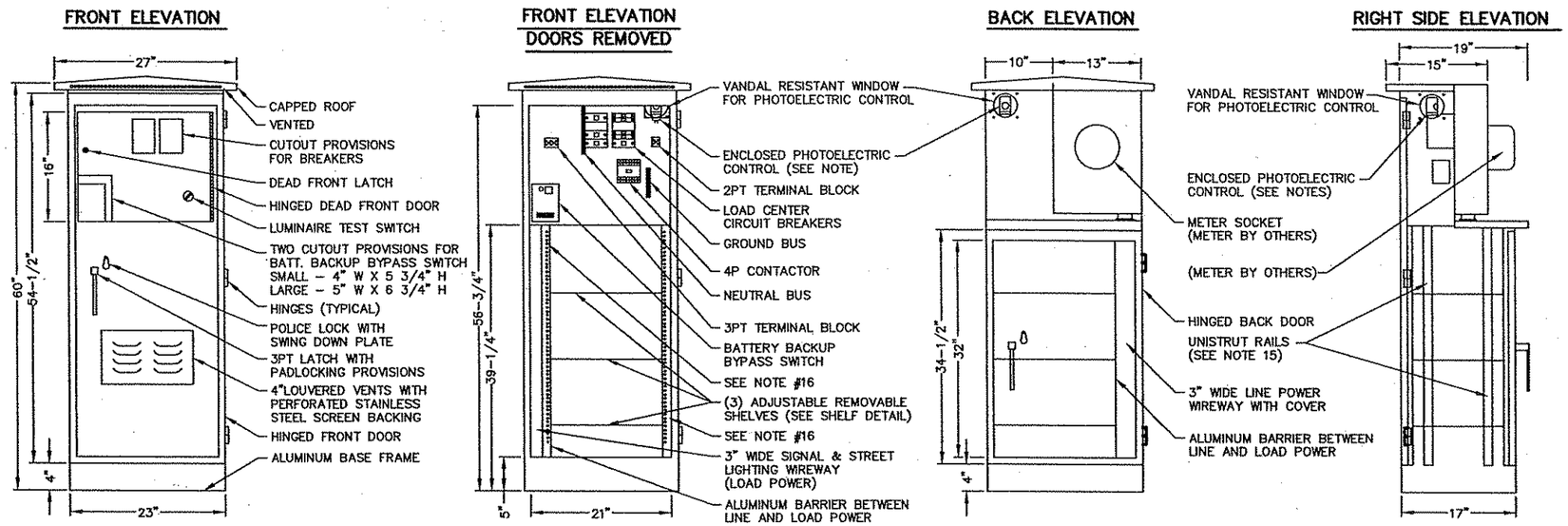
TRAFFIC CONTROL SIGNAL SYSTEM
PREFORMED NON-METALLIC CONDUIT (NMC)
LOOP DETECTOR DETAILS

CITY PROJECT	01-31	S.A.P.	0215-59
S.P.	02-678-17	S.A.P.	02-611-29
		S.A.P.	114-020-28

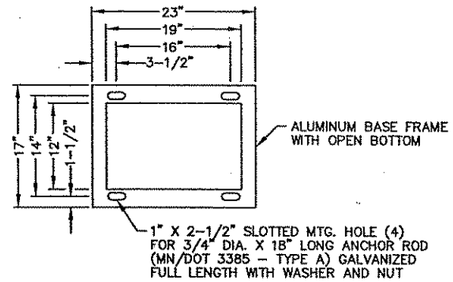
SHEET NO. 488 / 681

PLOT DATE: Jan 2007 11:22am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\042.dwg

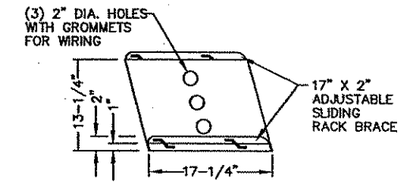
TYPICAL SERVICE CABINET DETAILS



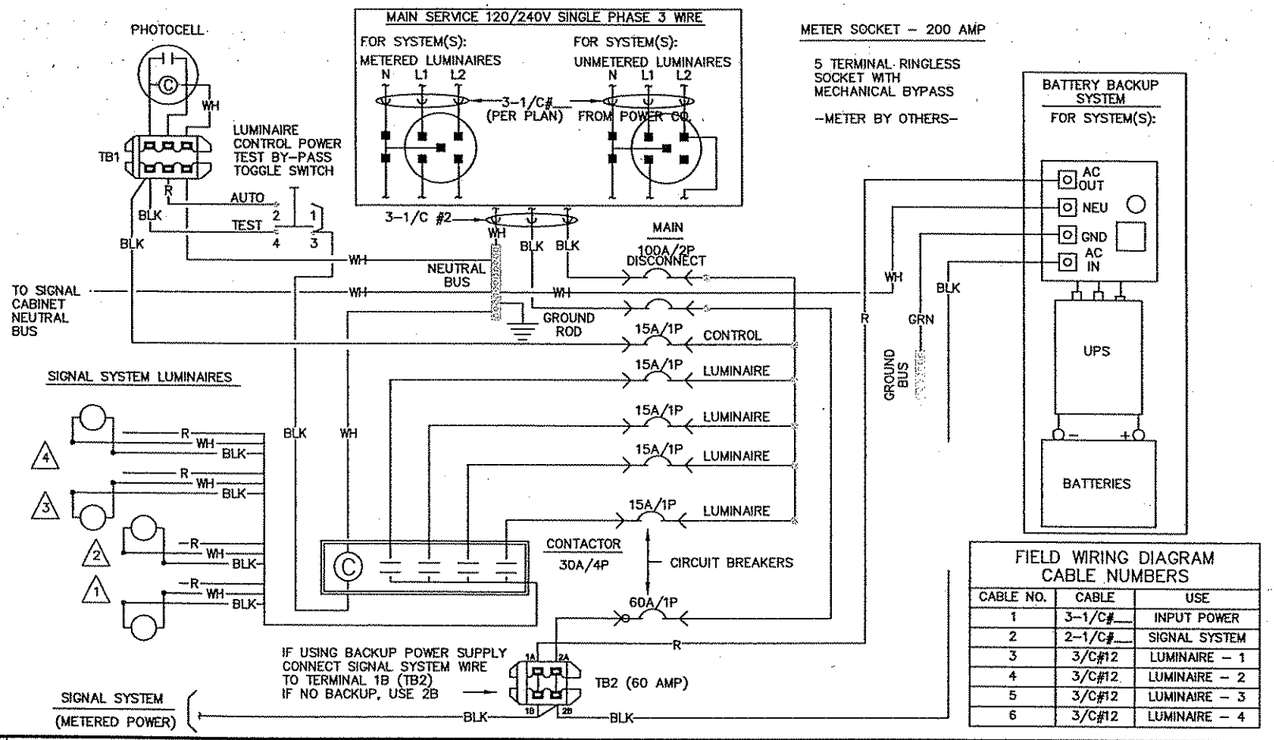
CABINET BASE DETAILS



CABINET SHELF DETAILS



FEED POINT WIRING DIAGRAM



FIELD WIRING DIAGRAM CABLE NUMBERS

CABLE NO.	CABLE	USE
1	3-1/C#__	INPUT POWER
2	2-1/C#__	SIGNAL SYSTEM
3	3/C#12	LUMINAIRE – 1
4	3/C#12	LUMINAIRE – 2
5	3/C#12	LUMINAIRE – 3
6	3/C#12	LUMINAIRE – 4

CONSTRUCTION NOTES

1. THE SERVICE CABINET SHALL BE FABRICATED FROM 0.125" ALUMINUM FOR OUTDOOR WEATHERPROOF SERVICE. AFTER FABRICATION, THE SERVICE CABINET, BOTH INSIDE AND OUTSIDE, SHALL BE PROTECTED WITH AN EXTERNAL THIRTY MINUTE CLEAR ANODIZED FINISH.
2. ALL HINGES, HINGE PINS AND LOCKS SHALL BE OF NON-CORRODING CONSTRUCTION.
3. THE SERVICE PEDESTAL DOORS SHALL BE ATTACHED TO THE ENCLOSURE WITH LIFT-OFF PHENOLIC HINGES AND SECURED WITH A STANDARD POLICE LOCK (PROVIDE ONE (1) KEY) FOR THE SERVICE DOORS.
4. BOTH DOOR OPENINGS SHALL BE PROVIDED WITH A NEOPRENE GASKET TO FORM A COMPLETE SEAL WITH THE ENCLOSURE.
5. THE PHOTOELECTRIC CONTROL WINDOWS SHALL BE CLEAR VANDAL RESISTANT MATERIAL (FOUR INCH X FOUR INCH).
6. THE CIRCUIT BREAKERS SHALL BE 120/240 VOLT AC, 60 HZ, AND SHALL BE CLEARLY MARKED WITH THE "ON" AND "OFF" POSITIONS AND IDENTIFIED WITH THE LOAD WHICH IT IS CARRYING (E.G. "SIGNALS OR "LUMINAIRE NUMBERS"). ALL CIRCUIT BREAKERS SHALL BE CLEARLY MARKED IN A MANNER THAT WILL NOT DETERIORATE WITH MOISTURE OR AGE.
7. SHORT CIRCUIT RATING – 10,000 AIC SYMMETRICAL.
8. PROVIDE CLEARANCE TO INSTALL OR REMOVE THE PHOTOELECTRIC CONTROL CELL.
9. THE PHOTOELECTRIC CONTROL SHALL BE ORIENTED TO ELIMINATE INTERFERENCE BY MANMADE LIGHT SOURCES. THE PHOTOELECTRIC CONTROL LENS SHALL NORMALLY FACE NORTH OR EAST.
10. ALL CONDUIT ENTERING THE FOUNDATION SHALL BE SEALED WITH AN APPROVED DUCT SEALER.
11. THE SERVICE CABINET SHALL BE U.L. LISTED AND LABELED AS "SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT" AND APPROVED FOR OUTDOOR USE.
12. THE SERVICE CABINET SHALL BE WELDED TO THE BASE IN ACCORDANCE WITH U.L. STANDARDS.
13. SEE THE INTERSECTION LAYOUT FOR THE REQUIRED NUMBER OF LUMINAIRES AT EACH INTERSECTION.
14. THE BASE GASKET SHALL CONSIST OF:
    - FOUR (4) STRIPS, SIZED TO FIT BASE
    - INCLUDE CORNER HOLE/SLOTS TO ACCOMMODATE THE 0.75 INCH ANCHOR RODS
    - GASKET MATERIAL 0.5 INCH THICK SOLID BUTYL RUBBER
    - PROVIDE 0.5 INCH GAP FOR WATER DRAINAGE
15. UNISTRUT RAILS (#A400EA OR EQUIVALENT) USED FOR SHELF SUPPORTS FOR (3) ADJUSTABLE REMOVABLE SHELVES SHALL BE MOUNTED TO THE SIDES OF THE CABINET.
16. THE 19" RACK IN THE BASE OF THE CABINET SHALL BE CONSTRUCTED TO TIA/EIA 310D STANDARDS.

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URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

TRAFFIC CONTROL SIGNAL SYSTEM
SIGNAL SERVICE CABINET DETAILS

CITY PROJECT 01-31		S.P.	0215-59
S.P. 02-678-17		S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

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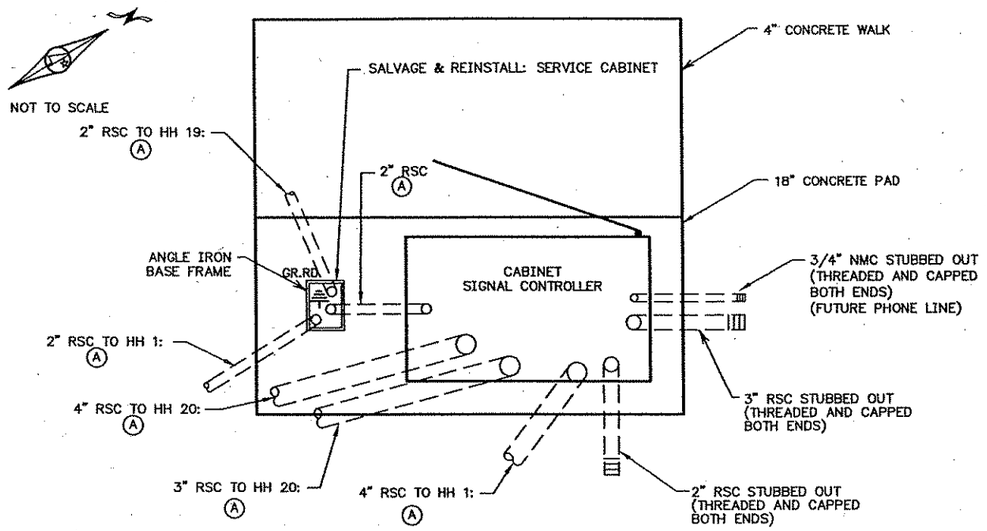
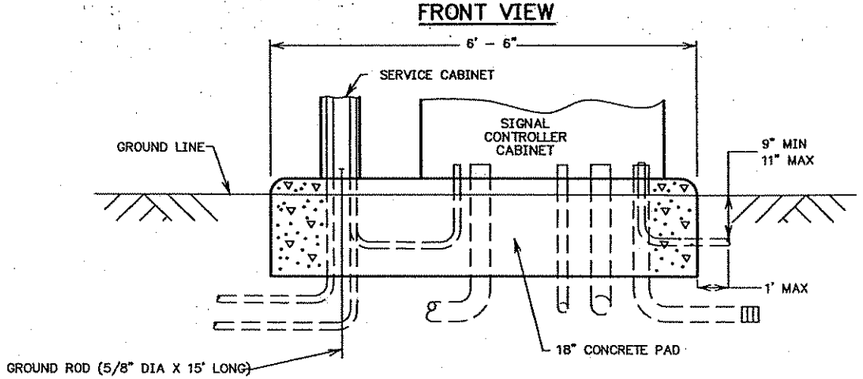
CONTROLLER CABINET AND SERVICE CABINET

HANSON BLVD. / ROBINSON DR.
SIGNAL SYSTEM "A"

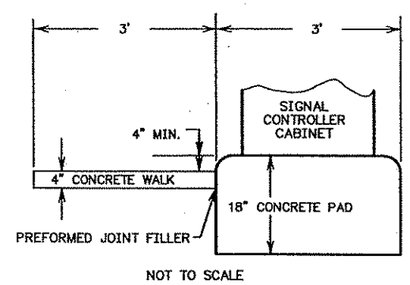
PLAN VIEW



FRONT VIEW



SIDE VIEW



NOT TO SCALE

(A) SEE SIGNAL SYSTEM A, SHEETS 500 - 502 FOR CABLES WITHIN EACH CONDUIT.

(B) SEE SIGNAL SYSTEM B, SHEETS 507 - 511 FOR CABLES WITHIN EACH CONDUIT.

(C) SEE SIGNAL SYSTEM C, SHEETS 513 - 515 FOR CABLES WITHIN EACH CONDUIT.

NOTES:

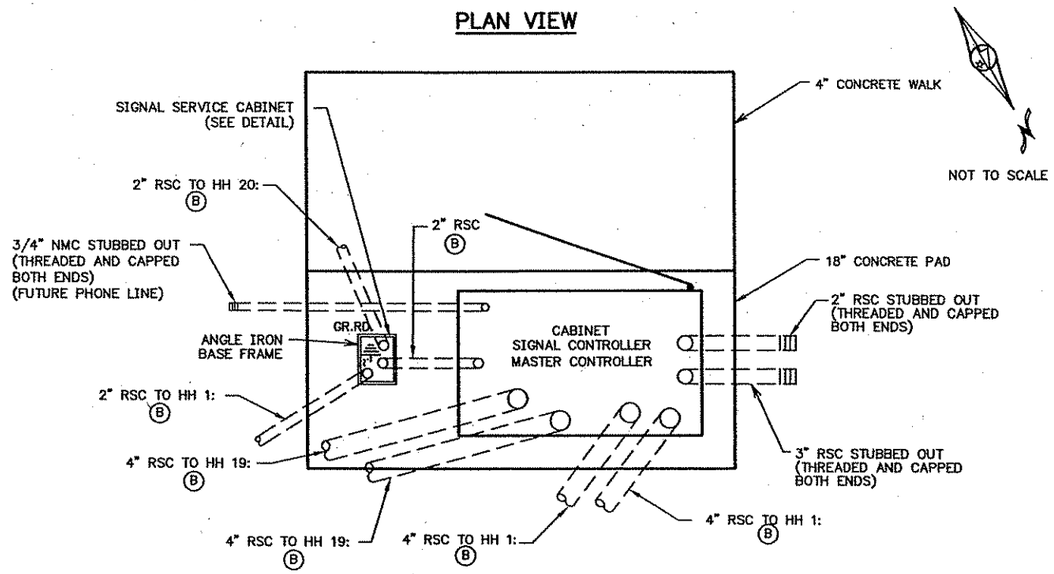
1. THE ANCHOR RODS, NUTS AND WASHERS FOR THE CONTROLLER CABINET SHALL BE FURNISHED BY MNDOT.
2. THE UPPER PART OF THE EQUIPMENT PAD SHALL BE BEVELLED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED).
4. CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE THE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3A32 OR EQUAL SHALL BE USED FOR THE EQUIPMENT PAD AND SIDEWALK.
6. CONDUITS WITH BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
7. THE EXACT LOCATION OF CONDUITS WITHIN THE PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

* DENOTES INTERCONNECT PAY ITEM.

CONTROLLER CABINET AND SERVICE CABINET

HANSON BLVD. / HWY 10
SIGNAL SYSTEM "B"

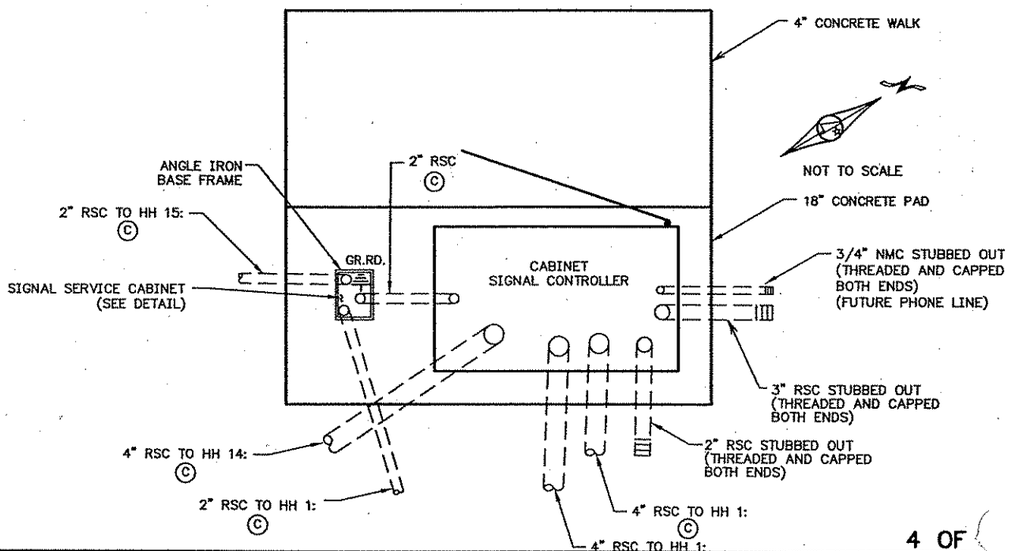
PLAN VIEW



CONTROLLER CABINET AND SERVICE CABINET

HANSON BLVD. / NORTHDALE BLVD.
SIGNAL SYSTEM "C"

PLAN VIEW



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URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

TRAFFIC CONTROL SIGNAL SYSTEM
EQUIPMENT PAD LAYOUTS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 490 / 681

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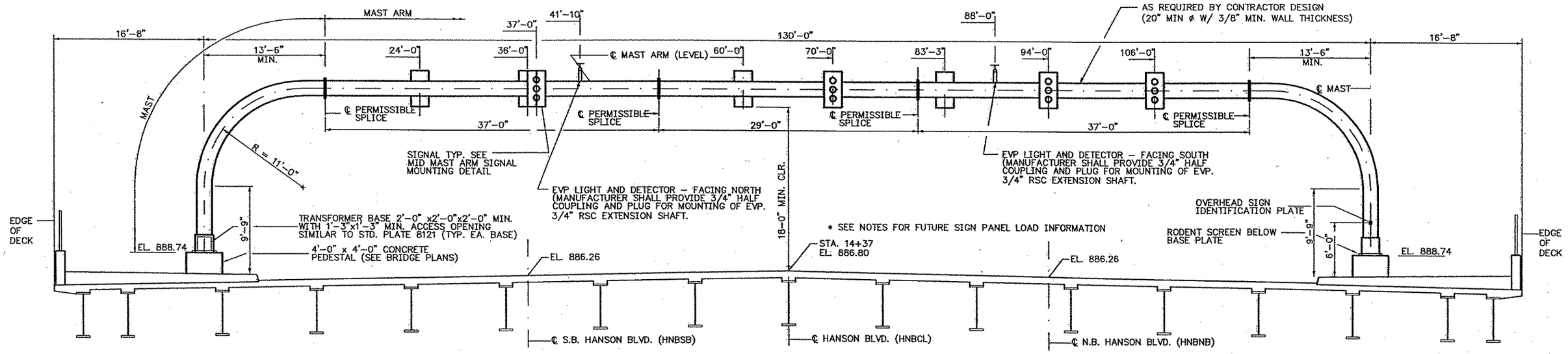

MONOTUBE OVERHEAD SIGNAL SUPPORT BRIDGE ON BRIDGE 02567

1. SUBMITTALS:
   - CONTRACTOR SHALL SUBMIT DETAILED STRUCTURAL CALCULATIONS SIGNED BY A REGISTERED PROFESSIONAL ENGINEER (LICENSED TO PRACTICE PROFESSIONAL ENGINEERING IN THE STATE OF MINNESOTA) FOR THE SIGNAL BRIDGE STRUCTURE AND ATTACHMENTS.
   - CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS SHOWING ALL DETAILS OF FABRICATION INCLUDING BUT NOT LIMITED TO MEMBER SIZES, FABRICATION DIMENSION, CONNECTION DETAILS (WELDED & BOLTED), ANTICIPATED DEFLECTION AND CAMBER, BASE DETAILS, ANCHOR BOLT LAYOUT, SIGNAL ATTACHMENT DETAILS, HANDHOLES, ACCESS DOORS AND ELECTRICAL COUPLINGS.
   - CONTRACTOR SHALL SUBMIT SERVICE BASE REACTIONS BROKEN DOWN BY LOAD TYPE (ie DEAD LOAD, ICE, WIND ETC.) TO ENGINEER OF RECORD FOR REVIEW WITH CONCRETE PEDESTAL DESIGN.
   - ALL SUBMITTALS SHALL BE MADE TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO ANY FABRICATION.
   - RADIOGRAPHIC INSPECTIONS AND MAGNETIC PARTICLE TESTING REPORTS AND RADIOGRAPHIC FILMS SHALL BE SUBMITTED.
2. DESIGN DATA:
   - AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY, BRIDGES 16TH EDITION".
   - AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 2001, 4TH EDITION".
   - LOADING:
     WIND LOAD = 80 M.P.H. WITH 1.3 GUST FACTOR
     ICE LOAD = 3 P.S.F.
   - MAXIMUM ALLOWABLE DESIGN STRESSES:
     STRUCTURAL STEEL:
     MAST AND MAST ARM STEEL: fy = 42,000 PSI
     SPLICE PLATES: fy = 42,000 PSI
     SECONDARY MEMBERS/BASEPLATES: fy = 36,000 PSI
3. MATERIALS:
   - MATERIALS:
     MAST AND MAST ARM STEEL: ---------- SEE GENERAL NOTES
     SECONDARY MEMBERS/BASEPLATES -------- MN/DOT 3309
   - ALL 7/8" DIA. H.S. BOLTS SHALL COMPLY WITH SPEC. 3391, HIGH STRENGTH STRUCTURAL STEEL BOLTS, TYPE 1 WITH ZINC COATING.
   - ANCHOR RODS SHALL CONFORM TO SPEC. 3385 AND SHALL BE TYPE A – CARBON STEEL ANCHOR RODS, WITH UNC. COARSE THREADS, HEAVY HEX NUTS SAND HARDENED WASHERS PER ASTM A307.
4. GENERAL NOTES:
   - MINIMUM VERTICAL CLEARANCE SHALL BE MEASURED FROM LOW STEEL TO THE HIGHEST ELEVATION OF: PAVEMENT, SHOULDERS, OR MOUNTABLE CURBS. IF INSURMOUNTABLE CURBS ARE USED, THE MINIMUM VERTICAL CLEARANCE SHALL BE MEASURED FROM THE HIGHEST ELEVATION BETWEEN THE GUTTER LINES.
   - THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANPORTATION "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" AND CURRENT SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN.
   - DIMENSIONS SHALL NOT BE SCALED FROM DRAWINGS.
   - MAST AND MAST ARM MATERIAL:
     ALL MAST AND MAST ARM MATERIAL SHALL BE WELDED OR SEAMLESS STEEL PIPE AND SHALL CONFORM TO ASTM A252, GRADE 3: OR API 5LX, GRADE 42X, TYPE E OR S.
   - THE CONTRACTOR SHALL DEMONSTRATE THAT THE MAST AND MAST ARM MATERIAL MEETS THE REQUIREMENTS OF THE MATERIAL SPECIFICATIONS CITED HEREIN.
   - FINISH:
     ALL COMPONENTS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION EXCEPT FOR LOWER PORTION OF ANCHOR ROD ASSEMBLIES, ALUMINUM, AND OTHER NON–FERROUS MATERIALS. BEARING SURFACES SHALL CONFORM TO ANSI ROUGHNESS 250 MICROINCH OR LESS.
   - ALL COMPONENTS SHALL BE PAINTED AFTER GALVANIZING. SEE SPECIAL PROVISIONS. PAINT COLOR TO BE DETERMINED BY OWNER.
   - THE MINIMUM VERTICAL CLEARANCE OF 18'–0" SHALL BE MAINTAINED TO ALL ELEMENTS OF THE STRUCTURE.
   - SIGNAL BRIDGE SHALL BE DESIGNED FOR A MINIMUM AREA OF FUTURE SIGN PANELS OF 96 SF. DISTRIBUTED SUCH THAT 24 SF OF SIGN PANEL AREA IS @ EACH 1/5 OF THE MAST SPAN. DESIGN SHALL ALSO INCLUDE THE ESTIMATED GRAVITY AND ICE LOAD FOR EACH PANEL.
   - CAMBER IS REQUIRED TO BE BUILT INTO THE HORIZONTAL MAST AND MAST ARM TO PROVIDE A POSITIVE RESIDUAL CAMBER.
   - CALCULATED CAMBER SHALL PROVIDE FOR DEFLECTIONS DUE TO DEAD LOAD OF MAST, MAST ARM, FUTURE SIGN PANELS, SIGNALS, AND ATTACHMENTS.
   - TWO HANDHOLES SHALL BE PROVIDED AT EACH SPLICE LOCATION. POSITION HANDHOLES ON OPPOSITE SIDE OF MAST OR MAST ARM FROM ON COMING TRAFFIC.
   - GALVANIZE HANDHOLE COVER SEPARATELY FROM MAST OR MAST ARM.
   - MINIMUM HANDHOLE DIMENSIONS SHALL BE 4" x 8".
   - PROVIDE AN ACCESS PANEL OPENING IN TRANSFORMER BASE WITH MINIMUM DIMENSIONS OF 1'–3" x 1'–3". PROVIDE BOLTED ON ACCESS DOOR WITH RUBBER GASKET. PROVIDE ACCESS OPENINGS ON OPPOSITE SIDE FROM ON COMING TRAFFIC. (TYP. EA. BASE)
   - PROVIDE STANDARD MOUNTING BRACKET FOR TRAFFIC SIGNAL HEADS ACCORDING TO STD. PLATE 8123E DETAIL C. PROVIDE A MINIMUM 1 HAND HOLE AND ALSO PROVIDE COUPLING THRU DRILLED HOLE FOR SIGNAL CONDUITS.
   - PROVIDE RODENT SCREEN BETWEEN TOP OF PEDESTAL AND BOTTOM OF BASE PLATE. RODENT SCREEN SHALL BE GALVANIZED WOVEN WIRE CLOTH, 2 MESH, 16 GAGE WIRE.
5. FABRICATION:
   - FABRICATION OF STRUCTURAL METALS SHALL BE IN ACCORDANCE WITH SPEC. 2471 AND THE APPLICABLE SPECIAL PROVISIONS. ALL WELDING SHALL BE CONTINUOUS AND IN ACCORDANCE WITH SPEC. 2471.3J UNLESS NOTED OTHERWISE. WELDING MATERIAL AND PROCESSES SHALL BE IN ACCORDANCE WITH SPEC. 3339. ALL CONTACT SURFACES SHALL BE COMPLETELY SEALED.
   - WELDED SPLICES IN MAST ARM WILL NOT BE ALLOWED.
   - ALL RADIOGRAPHIC INSPECTIONS AND MAGNETIC PARTICLE TESTING REPORTS AND RADIOGRAPHIC FILMS SHALL BECOME THE PROPERTY OF THE OWNER.
   - BOLTED SPLICES IN THE MAST ARM SHALL BE IN ACCORDANCE WITH THESE DRAWINGS AND AT LOCATIONS INDICATED ON THE CONTRACT DRAWINGS. ADDITIONAL CONTRACTOR–PROPOSED MAST ARM SPLICES MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL AND SHALL BE AT NO ADDITIONAL COST TO THE PROJECT.
   - FILLET WELDS SHALL BE DESIGNED BY THE CONTRACTORS ENGINEER BUT SHALL BE A MINIMUM AS BELOW:

MATERIAL THICKNESS OF THICKER PART JOINED	MINIMUM SIZE OF FILLET
LESS THAN OR EQUAL TO 3/4 INCH	1/4 INCH
GREATER THAN 3/4 INCH	5/16 INCH

   - MAST RADIUS SHALL BE FORMED TO THE DIMENSIONS SHOWN ON THE DRAWINGS BY HEAT TREATMENT OR FABRICATION METHODS WHICH WILL NOT CRIMP, FOLD, CREEASE OR BUCKLE THE WALL OF THE MEMBER, AND WHICH WILL YIELD MATERIAL PHYSICAL CHARACTERISTICS MEETING THOSE IDENTIFIED HEREIN. CUTTING AND WELDING TO THE RADIUS WILL NOT BE ALLOWED.
     THE RADIUS BENDS SHALL BE FORMED WITHIN THE FOLLOWING TOLERANCES:

SWEEP OF BEND ANGLE	90°+/– 1°
BEND RADIUS DIMENSION	11'–0" +/– 1"
REDUCTION IN CIRCUMFERENCE	1.0%
THINNING OF WALL THICKNESS	8%
OVALITY THROUGHOUT BEND	2.5% OF O.D.
OVALITY AT ENDS OF BEND	1.0% OF O.D.

   - OVALITY IS DEFINED AS THE DISTORTION OF THE CROSS–SECTION FROM ITS ROUND SHAPE EXPRESSED AS A PERCENTAGE OF THE DIFFERENCE BETWEEN THE MAJOR AND MINOR AXES.
   - FULL SHOP ASSEMBLY REAMING REQUIRED IN ACCORDANCE WITH SPEC. 2471.3J. SHOP BLOCKING DIAGRAM SHALL BE REFERENCED TO A LEVEL LINE RUNNING THE ENTIRE LENGTH OF THE STRUCTURE. MATCH MARK PARTS PRIOR TO DISASSEMBLY.
   - FULL SHOP ASSEMBLY REAMING SHALL BE USED IN SPLICE FABRICATION.
6. INSPECTION:
   - STRUCTURAL METALS SHALL BE INSPECTED BEFORE AND AFTER GALVANIZING IN ACCORDANCE WITH SPEC. 1511 AND 2471.3M.
7. ERECTION:
   - IF THE MONOTUBE STRUCTURES ARE ERECTED AS A PRE–ASSEMBLED UNIT. THE STRUCTURE SHALL BE ADEQUATELY SUPPORTED TO PREVENT DISTORTIONS AND CHANGES IN STRUCTURE GEOMETRY. BASEPLATES SHALL BE LEVEL AND BEARING ON LEVEL NUTS DURING TIGHTENING OF THE ANCHOR ROD NUTS.
8. ANCHOR BOLT ASSEMBLY:
   - BENDING OF ANCHOR RODS OR ALTERATION OF THE BASEPLATE WILL NOT BE ALLOWED TO CORRECT MISALIGNMENT, OUT–OF–POSITION, OR BENT ANCHOR RODS / ANCHOR ASSEMBLIES.
   - TIGHTENING OF THE ANCHOR ROD NUTS SHALL BE COMPLETED IN THE PRESENCE OF THE ENGINEER.
   - BASEPLATE SHALL BE INSTALLED LEVEL IN TWO DIRECTIONS ORIENTED PERPENDICULAR TO EACH OTHER. LEVELING NUTS SHALL BE BROUGHT TO FULL BEARING ON THE BOTTOM OF THE BASEPLATE.
   - GAPS BETWEEN LEVEL NUTS / TENSION NUTS AND BASEPLATE SHALL BE ADJUSTED TO FULL BEARING WITH THE USE OF BEVELED WASHERS. BEVELED WASHERS SHALL BE STAINLESS STEEL TYPE 304 AND SHALL BE THE SAME DIAMETER AS THE HARDENED WASHERS.
   - WAX OR OTHER APPROVED LUBRICANT SHALL BE APPLIED TO THE BEARING FACE AND INTERNAL THREADS OF THE TENSION NUT PRIOR TO ERECTION OF THE MAST.
   - TIGHTEN JAM NUTS TO SNUG TIGHT AFTER COMPLETION OF THE TENSION NUT TORQUE PROCESS.
   - CONTRACTOR SHALL USE A STEEL TEMPLATE TO ACCURATELY LOCATE AND HOLD THE ANCHOR ASSEMBLY PLUMB AND IN PROPER ALIGNMENT. OUT–OF–POSITION AND OUT–OF–PLUMB ANCHOR ASSEMBLIES WILL BE CONSIDERED CAUSE FOR REJECTION OF WORK.
   - DO NOT GROUT SPACE BETWEEN BOTTOM OF BASE PLATE AND THE TOP OF THE CONCRETE PEDESTAL.
9. QUANTIES:
   - DESIGN, DETAILING, FABRICTION AND ERECTION OF THE MONOTUBE OVERHEAD SIGNAL SUPPORTS SHALL BE INCLUDED IN THE PRICE BID FOR PAY ITEM 2565 TRAFFIC CONTROL SIGNAL SYSTEM "B" (1 SYSTEM).

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URS
Thresher Square
700 Third Street South
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David D Long

DAVID D. LONG
DATE: 1/8/07 MN LIC. NO. 24384

TH 10/HANSON BOULEVARD INTERCHANGE

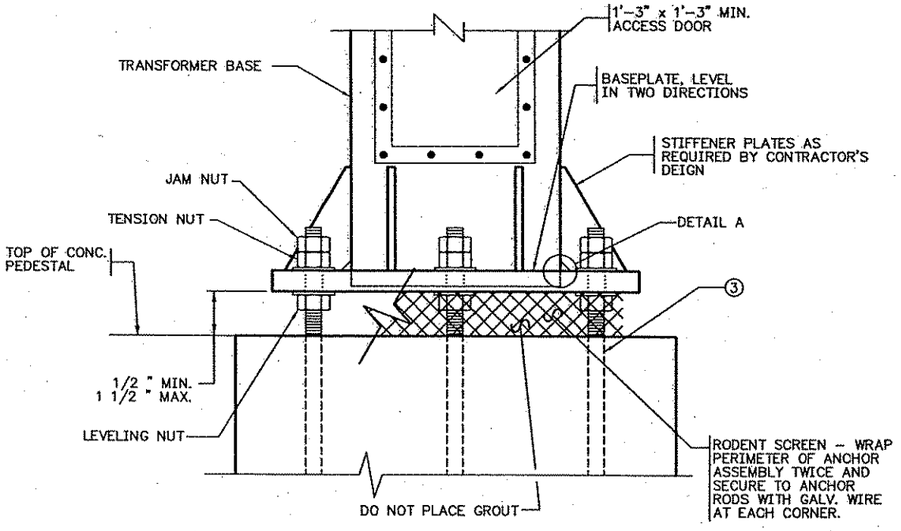
HANSON BLVD. / HWY 10

SIGNAL SYSTEM "B"
SIGNAL BRIDGE
DETAILS

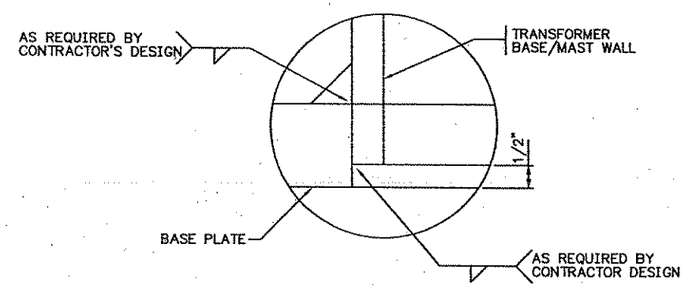
CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 491 / 681

PLOT DATE: JAN 2007 9:51am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\314.dwg

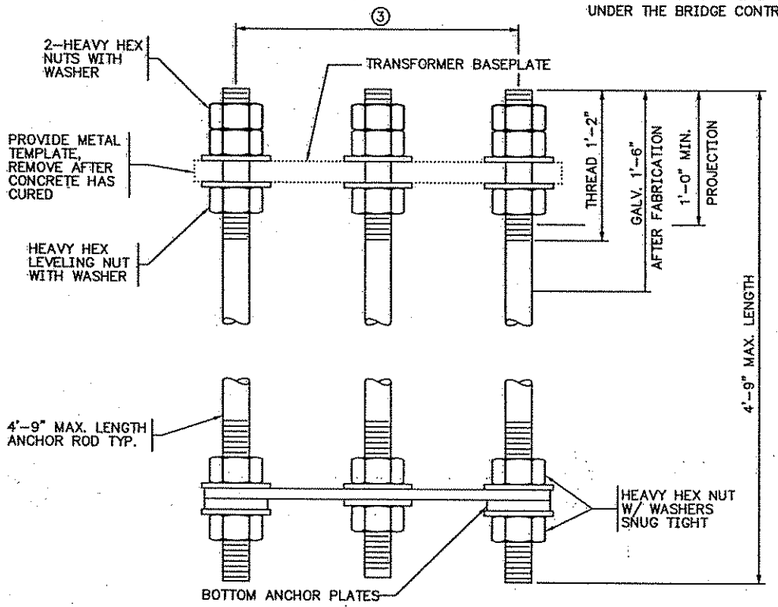


BASE DETAIL

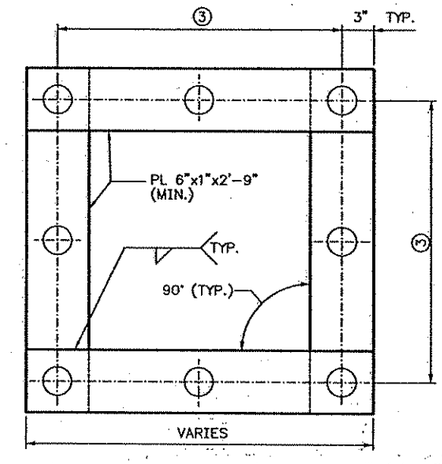


DETAIL A

③ NUMBER, SIZE AND SPACING OF ANCHOR BOLTS AS REQUIRED BY CONTRACTOR'S DESIGN. ANCHOR BOLTS SHALL BE INCIDENTAL TO AND BE PAID FOR UNDER THE BRIDGE CONTRACT (SEE BRIDGE PLANS).



ELEVATION



PLAN

BOTTOM ANCHOR PLATES

ANCHOR ASSEMBLY DETAIL

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS | DESIGN BY: DDL
CHKED. BY: DDL | DWG. NAME: 042-TS15
DATE: 11/10/06

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612.370.0700 Tel
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DAVID D. LONG
DATE: 1/8/07 MN LIC. NO. 24384

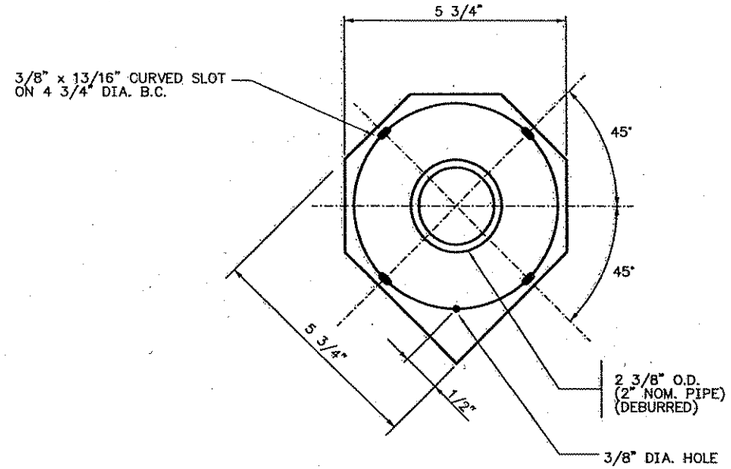
TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BLVD. / HWY 10
SIGNAL SYSTEM "B"
SIGNAL BRIDGE DETAILS

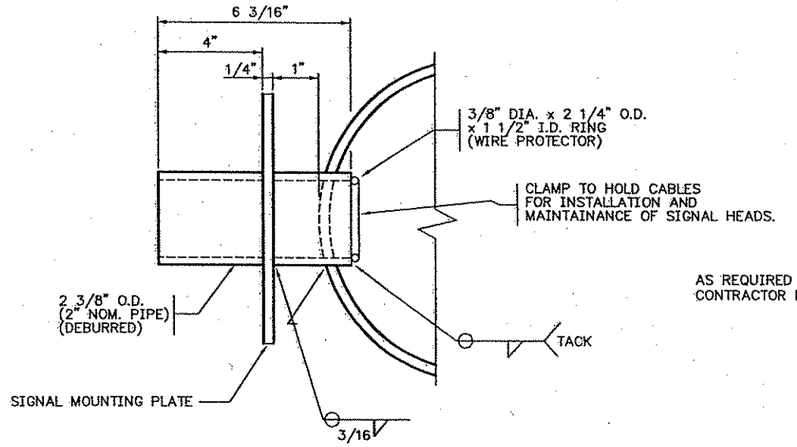
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 492 / 681

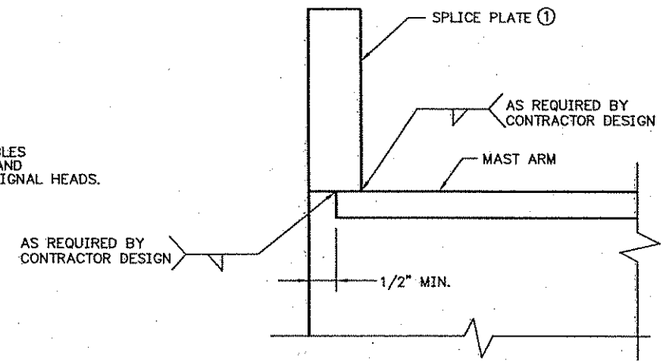
PLOT DATE: 2007 9:55am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\TS15.dwg



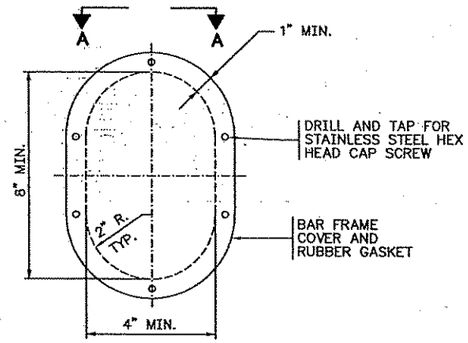
SIGNAL MOUNTING PLATE



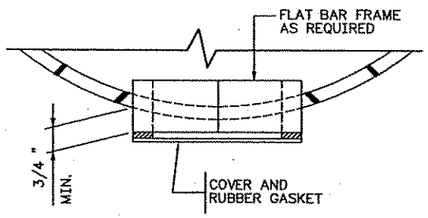
MID MAST ARM SIGNAL MOUNTING



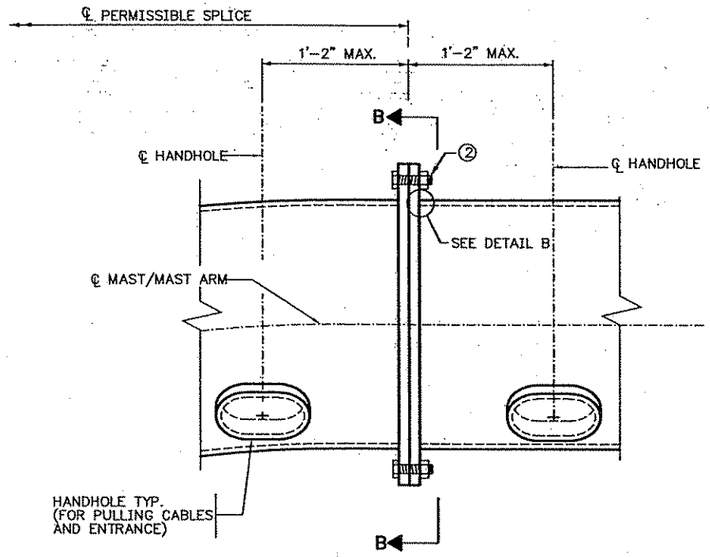
DETAIL B



HANDHOLE AND COVER DETAIL

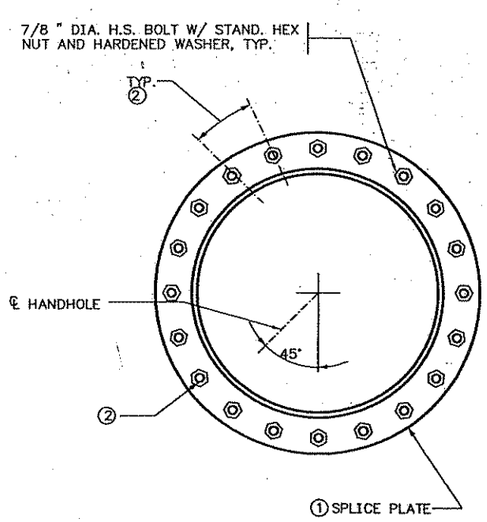


A-A



① SPLICE PLATE SIZE AS REQUIRED BY CONTRACTOR'S DESIGN
② NUMBER OF BOLTS AND SPACING AS REQUIRED BY CONTRACTOR'S DESIGN

SPLICE ELEVATION



SECTION B-B

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS | DESIGN BY: DDL
CHKED. BY: DDL | DWG. NAME: 042-TS16
DATE: 11/10/06

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700 Third Street South
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612.370.0700 Tel
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DAVID D. LONG
DATE: 1/8/07 MN LIC. NO. 24384

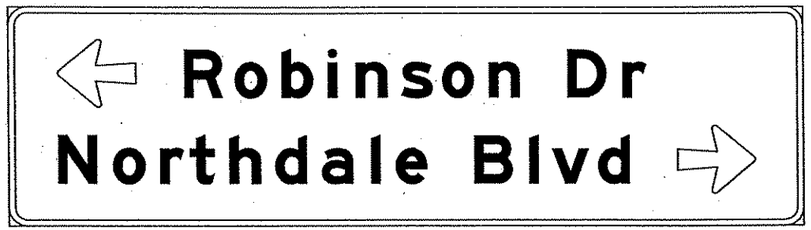
TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BLVD. / HWY 10

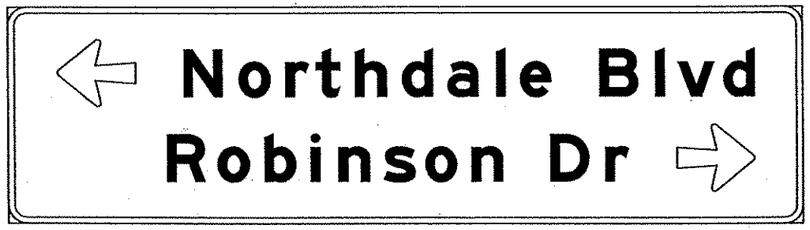
SIGNAL SYSTEM "B"
SIGNAL BRIDGE DETAILS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

PLOT DATE: J 2007 9:55am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\ 316.dwg

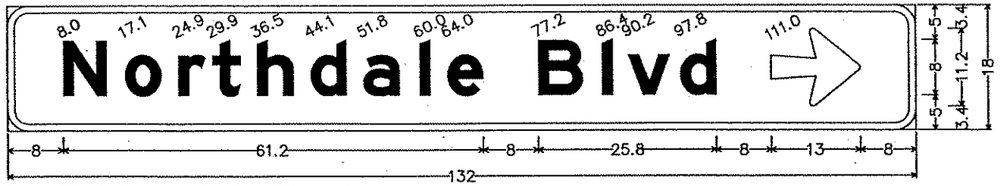


D–1

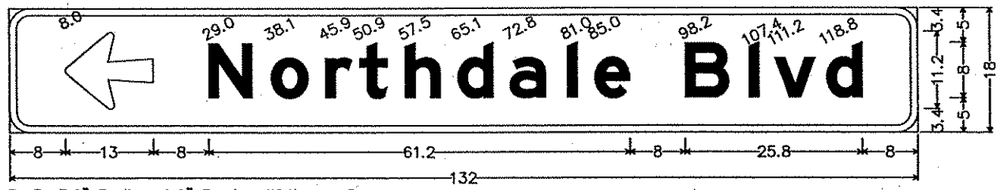


D–2

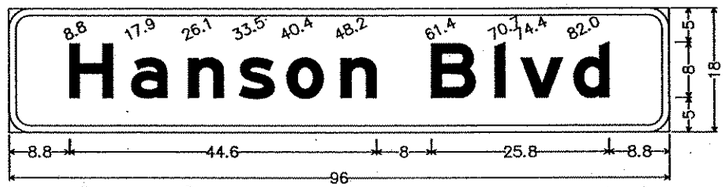
D–3



D–4; 3.0" Radius, 1.0" Border, White on Green;
[Northdale Blvd] E Mod; Arrow 5 – 13.0" 0{;



D–5; 3.0" Radius, 1.0" Border, White on Green;
Arrow 5 – 13.0" 180{; [Northdale Blvd] E Mod;

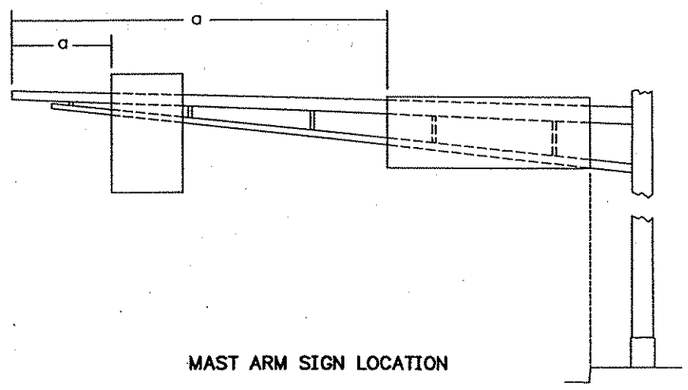


D–6; 3.0" Radius, 1.0" Border, White on Green;
[Hanson Blvd] E Mod;

R6–1R

R6–1L

R9–3a



MAST ARM SIGN LOCATION

NOTES:

1. FURNISHING & INSTALLING, SALVAGING & REINSTALLING TYPE "C" AND TYPE "D" SIGNS SHALL BE INCIDENTAL.
2. CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
3. SEE STANDARD SIGNS MANUAL FOR ARROW AND OVERLAY DETAILS.
4. FOR TYPE "D" STRINGER AND PANEL JOINT DETAIL, SEE STANDARD SIGNS MANUAL.
5. FOR STRUCTURAL DETAILS TYPE "D" SIGNS, SEE STANDARD SIGNAL MANUAL PAGE 105A, AND IN SPECIAL PROVISIONS.
6. EXACT LOCATION OF POST AND MASTARM MOUNTED SIGNS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

TYPE "C" & "D" SIGNS

STATUS PANEL	SIGN PANEL	SIGNAL SYSTEM	POLE NO.	a (FT)	SIZE (IN)	MOUNTING BRACKET NO.	MOUNTING BRACKET SPACING (1)	AREA/SIGN (SQ.FT.)	NO. REQ.
SALVAGE & REINSTALL	D–1	A	6	28	132x36	5	––	––	––
SALVAGE & REINSTALL	D–2	A	2	29	132x36	5	––	––	––
SALVAGE & REINSTALL	D–3	A	1	22	96x18	4	––	––	––
INPLACE	D–3	A	4	––	96x18	––	––	––	––
SALVAGE & REINSTALL	R6–1L	A	1, 2, 4, 6	PL MT	36x12	––	––	––	––
SALVAGE & REINSTALL	R6–1R	A	1, 2, 4, 6	PL MT	36x12	––	––	––	––
F & I	R9–3a	B	1, 5, 6, 10, 13, 14, M1, M2	PL MT	18x18	––	––	2.25	10
F & I	R6–1L	B	1, 5, 10, 13	PL MT	36x12	––	––	3.0	4
F & I	R6–1R	B	7	PL MT	36x12	––	––	3.0	1
F & I	D–4	C	5	42	132x18	5	––	16.5	1
F & I	D–5	C	1	37	132x18	5	––	16.5	1
F & I	D–6	C	3	26	96x18	4	––	12	1
F & I	D–6	C	7	27	96x18	4	––	12	1
F & I	R9–3a	C	1 & 7	PL MT	18x18	––	––	2.25	2
F & I	R6–1L	C	1, 3, 5, 7	PL MT	36x12	––	––	3	4
F & I	R6–1R	C	1, 3, 5, 7	PL MT	36x12	––	––	3	4

(1) SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLLY SPACED. SEE SPECIAL PROVISIONS FOR BRACKET SPACING REQUIREMENTS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: JAS | DESIGN BY: MRA/YF
CHKED. BY: AJW/JFC | DWG. NAME: 042–TS04
DATE: 01/08/07

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612.370.0700 Tel
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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

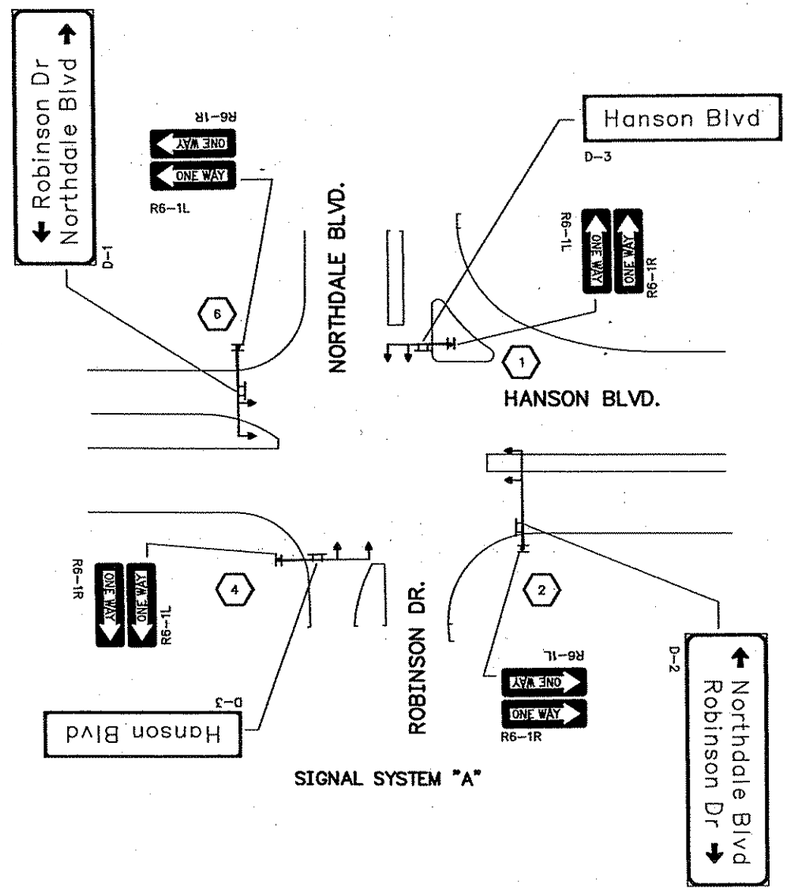
HANSON BLVD. / NORTHDALE BLVD.

MAST ARM POLE MOUNTED
SIGN DETAILS
(1 OF 2)

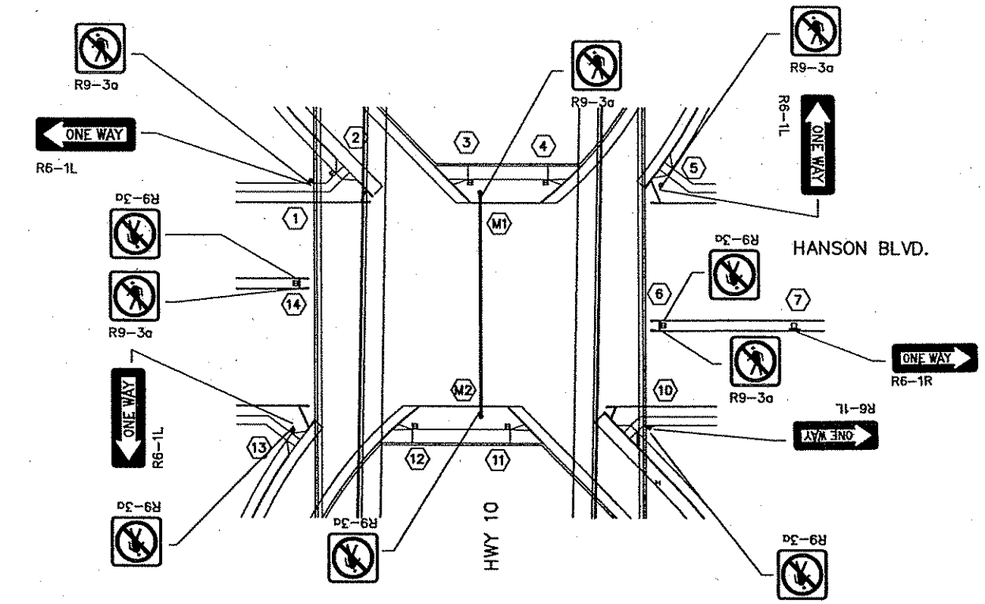
CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 494 / 681

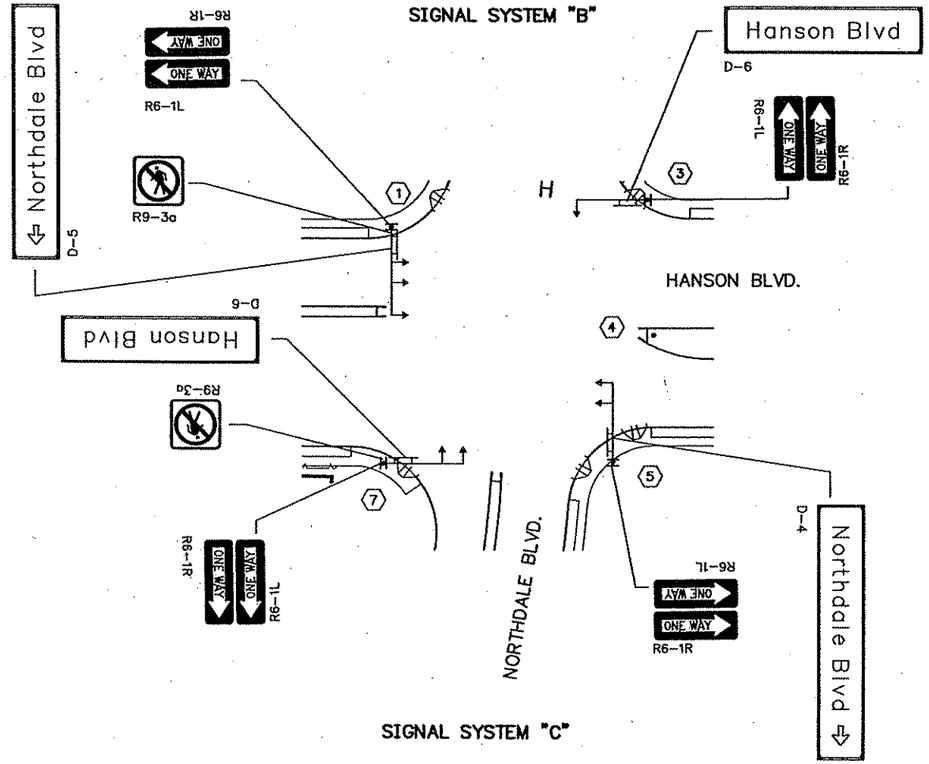
PLOT DATE: Jan 07 9:56am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\04.dwg



SIGNAL SYSTEM "A"



SIGNAL SYSTEM "B"



SIGNAL SYSTEM "C"

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS | DESIGN BY: MRA/YF
CHKED. BY: AJW/JFC | DWG. NAME: 042-TS29
DATE: 01/08/07

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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BLVD. / HWY 10

MAST ARM POLE MOUNTED SIGN DETAILS (2 OF 2)

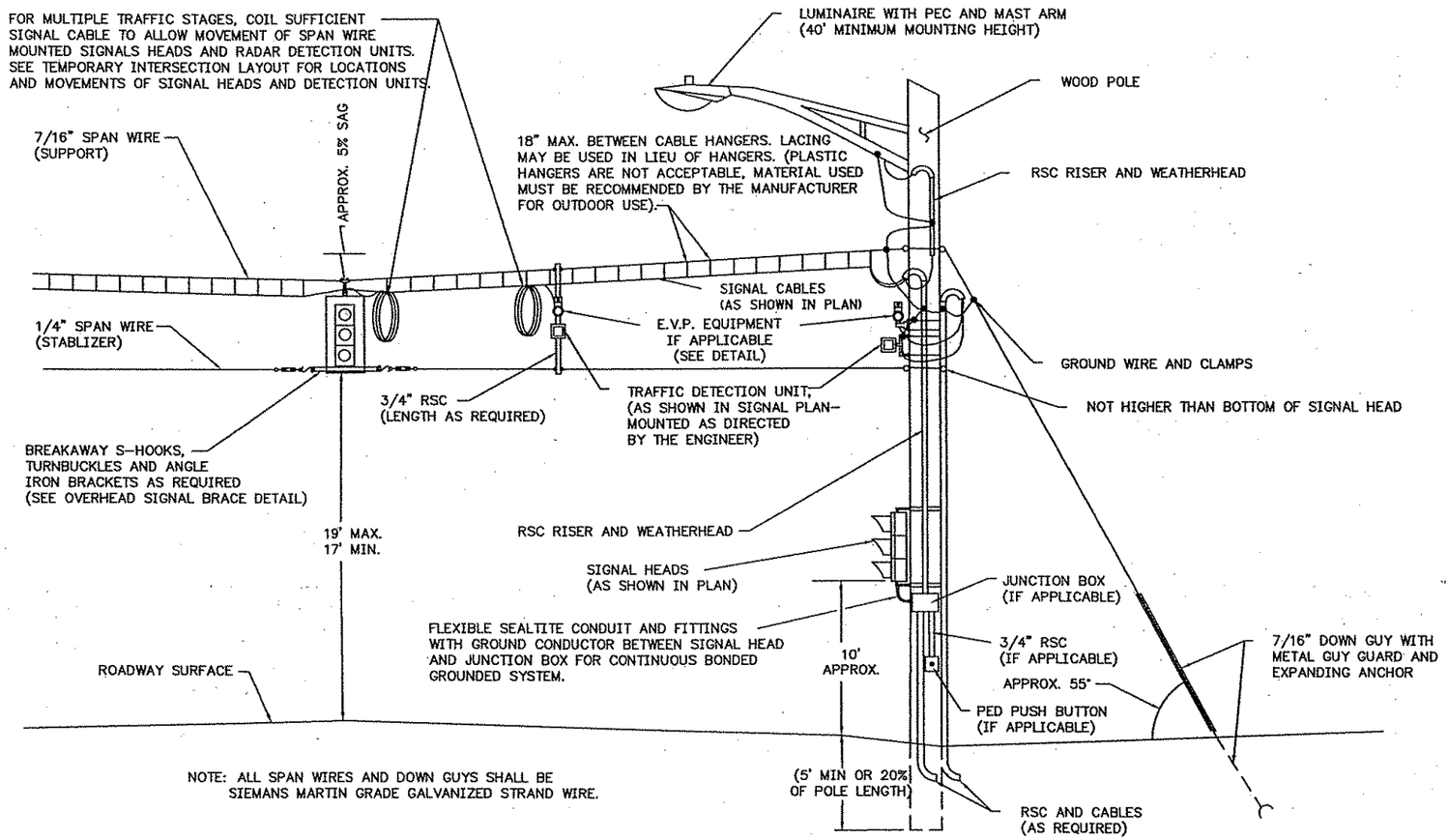
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 495 / 681

PLOT DATE: Jan 07 9:56am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\D 79.dwg

TYPICAL WOOD POLE AND SPAN WIRE MOUNTED TRAFFIC SIGNALS

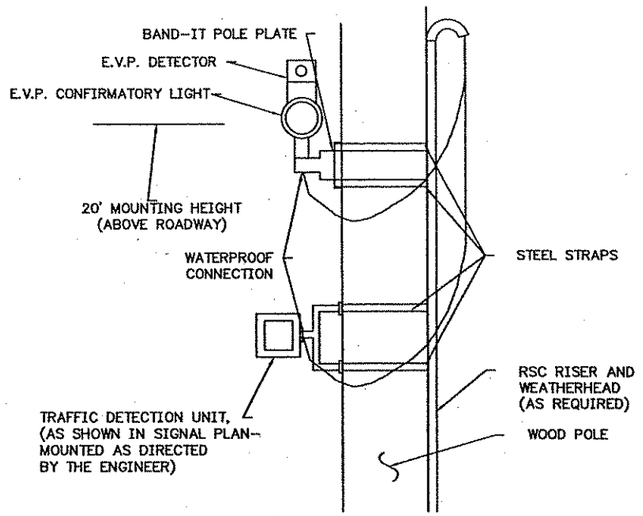
(NOT TO SCALE)



NOTE: ALL SPAN WIRES AND DOWN GUYS SHALL BE SIEMANS MARTIN GRADE GALVANIZED STRAND WIRE.

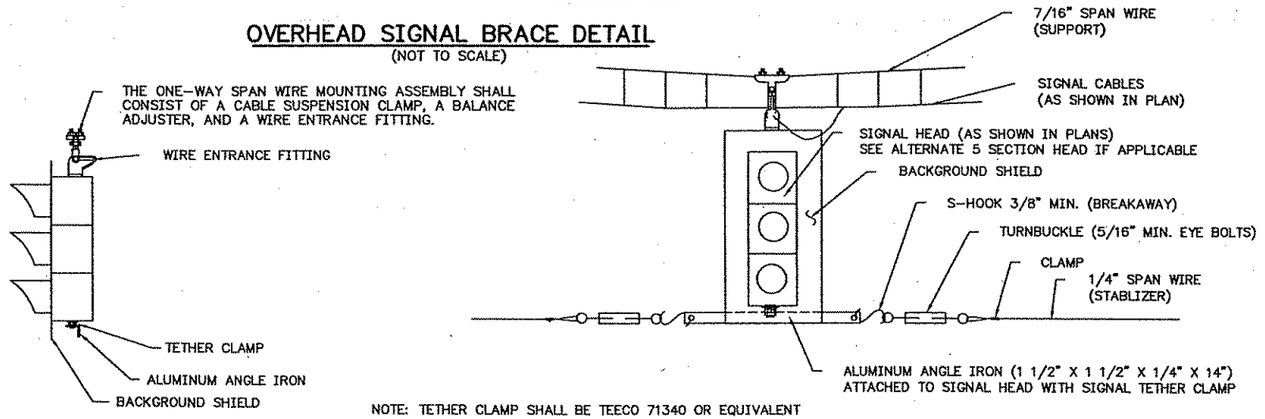
E.V.P. OR TRAFFIC DETECTOR WOOD POLE MOUNT

(NOT TO SCALE)



OVERHEAD SIGNAL BRACE DETAIL

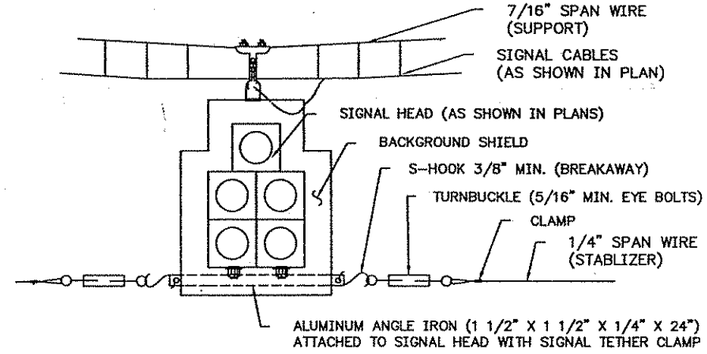
(NOT TO SCALE)



NOTE: TETHER CLAMP SHALL BE TEECO 71340 OR EQUIVALENT

ALTERNATE FOR 5 SECTION HEAD OVERHEAD SIGNAL BRACE DETAIL

(NOT TO SCALE)



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS | DESIGN BY: MRA
CHKED. BY: AJW | DWG. NAME: 042-TS18
DATE: 01/08/07

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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25087

TH 10/HANSON BOULEVARD INTERCHANGE

TRAFFIC CONTROL SIGNAL SYSTEM
WOOD POLE SPAN WIRE DETAILS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 496 / 681

PLOT DATE: Jan 07 9:57am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\04 dwg

(1) ℄ HANSON BLVD. STA. 8+33, 91'LT.
45' WOOD POLE CL. 2
2 – DOWNGUYS, GUARDS AND ANCHORS
1 – 4" RISER AND WEATHERHEAD TO HH 1:
5–12/C #12
3–5/C #12
5–4/C #18
9–3/C #12
5–3/C #20

(2) MOVABLE TEMPORARY PEDESTAL FOUNDATION
14' PEDESTAL POLE AND BASE
TYPE 6A PEDESTAL MOUNTED
2 – R9–3A SIGNS (NO PED) FACING POLES 3 & 6
AERIAL CONNECTION TO SPAN WIRE:
1–12/C #12

(3) ℄ HANSON BLVD. STA. 8+44, 63'RT.
45' WOOD POLE CL. 2
2 – DOWNGUYS, GUARDS AND ANCHORS
15' LUMINAIRE MAST ARM
LUMINAIRE – 250W HPS WITH PEC AND CHECK SWITCH
1 – R9–3A SIGN (NO PED) FACING POLE 2
1" RSC RISER AND WEATHERHEAD ABOVE SPAN WIRE:
1–3/C #12

(4) MOVABLE TEMPORARY PEDESTAL FOUNDATION
13' PEDESTAL POLE AND BASE
TYPE 5B PEDESTAL MOUNTED
AERIAL CONNECTION TO SPAN WIRE:
1–12/C #12
1–3/C #12

(5) ℄ HANSON BLVD. STA. 6+84, 54'RT.
45' WOOD POLE CL. 2
2 – DOWNGUYS, GUARDS AND ANCHORS
1 – TYPE 10C POLE MOUNTED
15' LUMINAIRE MAST ARM
LUMINAIRE – 250W HPS WITH PEC AND CHECK SWITCH
INSTALL SALVAGED EVP DETECTOR (ø8) (SEE NOTE 6)
METAL JUNCTION BOX #1 WITH TERMINAL BLOCK #1
2" RSC RISER AND WEATHERHEAD ABOVE J.B. #1:
1–12/C #12
1–3/C #12
2" RSC RISER AND WEATHERHEAD ABOVE SPAN WIRE:
1–3/C #12
1–3/C #20

(6) ℄ HANSON BLVD. STA. 6+96, 73'LT.
45' WOOD POLE CL. 2
2 – DOWNGUYS, GUARDS AND ANCHORS
1 – TYPE 10B POLE MOUNTED
15' LUMINAIRE MAST ARM
LUMINAIRE – 250W HPS WITH PEC AND CHECK SWITCH
1 – R9–3a SIGN (NO PED) FACING POLE 2
METAL JUNCTION BOX #2 WITH TERMINAL BLOCK #2
2" RSC RISER AND WEATHERHEAD ABOVE J.B. #2:
1–12/C #12
1–3/C #12
1" RSC RISER AND WEATHERHEAD ABOVE SPAN WIRE:
1–3/C #12

(7) ℄ HANSON BLVD. STA. 5+55, 56'LT.
45' WOOD POLE CL. 2
TO POLES 6 & 8:
1–3/C #20

(8) ℄ HANSON BLVD. STA. 4+20, 60'LT.
45' WOOD POLE CL. 2
AERIAL CONNECTION TO POLE 9:
1–3/C #20

(9) INPLACE: PEDESTAL FOUNDATION
10' PEDESTAL & BASE
1 – ONEWAY EVP DETECTOR MOUNTED
ON TOP OF PEDESTAL POLE (ø2)

F & I: AERIAL CONNECTION TO WOOD POLE 8:
1–3/C #20

SIGNAL FACES						
FACE	R	Y	G	R	Y	G
2–1	●	●	●			
2–2	●	●	●			←
2–3	●				←	←
3–1, 3–2				←	←	←
4–1, 4–2	●	●	●			
8–1, 8–2	●	●	●			

– ALL SIGNAL INDICATIONS SHALL BE 12"
– ALL SIGNAL INDICATIONS SHALL BE LED
– ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD

MICROWAVE & SONIC DETECTORS (MN/DOT FURNISHED)	
NUMBER	STATUS
M2–1	INSTALL
S3–1, M3–1	INSTALL
M4–1	INSTALL
M8–1	INSTALL

7/16" SPAN WIRE
1/4" SPAN WIRE
2–12/C #12
1–5/C #12
2–4/C #18
6–3/C #12
4–3/C #20

7/16" SPAN WIRE
1/4" SPAN WIRE
2–12/C #12
2–5/C #12
2–4/C #18
6–3/C #12
4–3/C #20

TO SOP
GROUND MOUNTED PAD
(INPLACE)
(POWER CONNECTION BY
CONNEXUS ENERGY
CONTACT PERSON:
STEVE ZIMMERMAN)

NORTHDALE BLVD.
(35 MPH)

7/16" SPAN WIRE
1/4" SPAN WIRE
3–12/C #12
1–5/C #12
3–4/C #18
3–3/C #12
1–3/C #20

7/16" SPAN WIRE
1–3/C #20

7/16" SPAN WIRE
1/4" SPAN WIRE
1–12/C #12
1–4/C #18
3–3/C #12
2–3/C #20

7/16" SPAN WIRE
1/4" SPAN WIRE
2–12/C #12
1–4/C #18
5–3/C #12
3–3/C #20

(SEE NOTE 6)
ø4 EVP
M4–1

ø2 EVP
M2–1
(SEE NOTE 6)

SB HANSON BLVD.
(40 MPH)

INPLACE POLE TO BE
USED IN NEW SIGNAL
(BAG ALL MASTARM & POLE
MOUNTED VEHICLE &
PEDESTRIAN INDICATIONS)

7/16" SPAN WIRE
1/4" SPAN WIRE
EMPTY

7/16" SPAN WIRE
1/4" SPAN WIRE
1–5/C #12

7/16" SPAN WIRE
1/4" SPAN WIRE
1–12/C #12
2–3/C #12
1–3/C #20

7/16" SPAN WIRE
1/4" SPAN WIRE
1–5/C #12
1–4/C #18

7/16" SPAN WIRE
1/4" SPAN WIRE
1–5/C #12
2–4/C #18

ø3 & ø8 EVP

S3–1
M3–1
M8–1
ø3 & ø8 EVP
(SEE NOTE 6)

ROBINSON DR.
(40 MPH)

7/16" SPAN WIRE
1/4" SPAN WIRE
1–12/C #12
1–5/C #12
3–4/C #18
1–3/C #12
1–3/C #20

7/16" SPAN WIRE
1/4" SPAN WIRE
1–12/C #12
1–5/C #12
3–4/C #18
2–3/C #12
1–3/C #20

7/16" SPAN WIRE
1/4" SPAN WIRE
2–12/C #12
1–5/C #12
3–4/C #18
3–3/C #12
1–3/C #20

7/16" SPAN WIRE
1/4" SPAN WIRE
1–12/C #12
1–5/C #12
3–4/C #18
3–3/C #12
1–3/C #20

NB HANSON BLVD.
(40 MPH)

(C) TEMPORARY SERVICE EQUIPMENT
(METER SOCKET AND DISCONNECT SWITCH)
25' WOOD POLE CL. 2

2" RSC BELOW SERVICE EQUIPMENT TO
CONTROLLER AND CABINET:
3–1/C #4
2" RSC BELOW SERVICE EQUIPMENT TO HH 1:
3–3/C #12

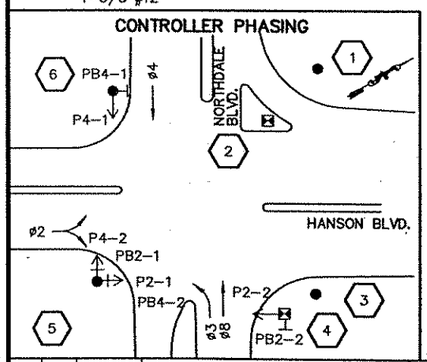
2" RSC BELOW SERVICE EQUIPMENT (TO SOP)
(POWER CONNECTION TO GROUND MOUNT
TRANSFORMER PAD BY CONNEXUS ENERGY.
CONTACT PERSON: STEVE ZIMMERMAN)

(A) TEMPORARY CABINET BASE
(SEE SPECIAL PROVISIONS)
INSTALL SALVAGED CONTROLLER
AND CABINET (SEE NOTE 13)

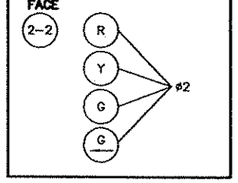
EXTEND INTO HH 1:
4" RSC
5–12/C #12
3–5/C #12
5–4/C #18
6–3/C #12
5–3/C #20

EXTEND INTO SERVICE
EQUIPMENT (POLE C)
2" RSC
3–1/C #4

CONTROLLER PHASING



SIGNAL FACE PHASING



TEMPORARY TRAFFIC SIGNAL SYSTEM "A"
STAGING PLAN

STAGE 1, PHASE 1 – EXISTING SIGNAL SYSTEM
STAGE 1, PHASE 2 – TEMPORARY SIGNAL SYSTEM
(SEE STAGE 1, PHASE 2 PLAN)
STAGE 1, PHASE 2A – TEMPORARY SIGNAL SYSTEM
(SEE STAGE 1, PHASE 2A PLAN)
STAGE 2, PHASE 1 – PERMANENT SIGNAL SYSTEM
(SEE SHEET 500)

GENERAL LAYOUT

SYSTEM ID #: 20215
TE #: 3422
METER ADDRESS:

40'
SCALE

NOTES:
1.) SEE SPECIAL PROVISIONS FOR MN/DOT FURNISHED MATERIALS.
2.) EXACT LOCATION OF POLES, CABINET & HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. MN/DOT TRAFFIC OFFICE PERSONNEL SHALL REVIEW THESE LOCATIONS PRIOR TO INSTALLATION.
3.) THE CONTRACTOR SHALL PROVIDE SUFFICIENT SLACK IN CABLE TO ALLOW FOR RELOCATING VEHICLE HEADS, EVP EQUIPMENT AND VEHICLE DETECTORS AS SHOWN ON SIGNAL STAGING SHEETS.
4.) MOVING HEADS, EVP DETECTORS & MICROWAVE DETECTORS TO ACCOMODATE CONSTRUCTION STAGING SHALL BE CONSIDERED INCIDENTAL.
5.) THE CONTRACTOR SHALL REMOVE AND SALVAGE ITEMS OF THE INPLACE SIGNAL SYSTEM WHEN DIRECTED BY THE ENGINEER. REFER TO INTERSECTION LAYOUT (1 OF 2) & (2 OF 2) SHEET NO'S. 500 & 501 FOR INFORMATION ON ITEMS TO BE REMOVED, REMOVED & SALVAGED, LEFT INPLACE OR TO BE REINSTALLED FOR FUTURE USE ON THE PERMANENT SIGNAL SYSTEM. REMOVING, REMOVING & SALVAGING INPLACE ITEMS SHALL BE CONSIDERED INCIDENTAL.
6.) ALL EVP EQUIPMENT (DETECTOR, INDICATION LIGHT, PHASE SELECTORS) SALVAGED FROM INPLACE SIGNAL SYSTEM SHALL BE REINSTALLED AT LOCATIONS SHOWN IN PLANS. SEE SPECIAL PROVISIONS.
7.) ALL VEHICLE SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
8.) FOR SIGNAL SYSTEM SPAN WIRE MOUNTING, SEE SHEET 496.
9.) THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK.
10.) VEHICLE DETECTORS, EVP DETECTORS AND INDICATOR LIGHTS SHALL BE MOUNTED AS DIRECTED BY MN/DOT TRAFFIC OFFICE PERSONNEL. (SPAN WIRE MOUNTING OR POLE MOUNTING AS SHOWN ON DETAIL SHEET 496.)
11.) FURNISHING & INSTALLING TYPE C SIGNS SHALL BE INCIDENTAL.
12.) THE INPLACE CONTROLLER CABINET SHALL BE RELOCATED FOR USE WITH THE TEMPORARY SIGNAL SYSTEM. SEE SPECIAL PROVISIONS. WHILE RELOCATING AND INSTALLING THE INPLACE CONTROLLER CABINET, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING MATERIAL AND LABOR FOR AN ALL–WAY STOP SIGN CONTROLLED CONDITION. SEE SPECIAL PROVISIONS. FURNISHING AND MAINTENANCE OF ALL REQUIRED SIGNS AND TRAFFIC CONTROL DEVICES SHALL BE INCIDENTAL.
13.) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: JAS
DESIGN BY: MRA
CHKED. BY: AJW
DWG. NAME: 042–TS10
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25087

TH 10/HANSON BOULEVARD INTERCHANGE

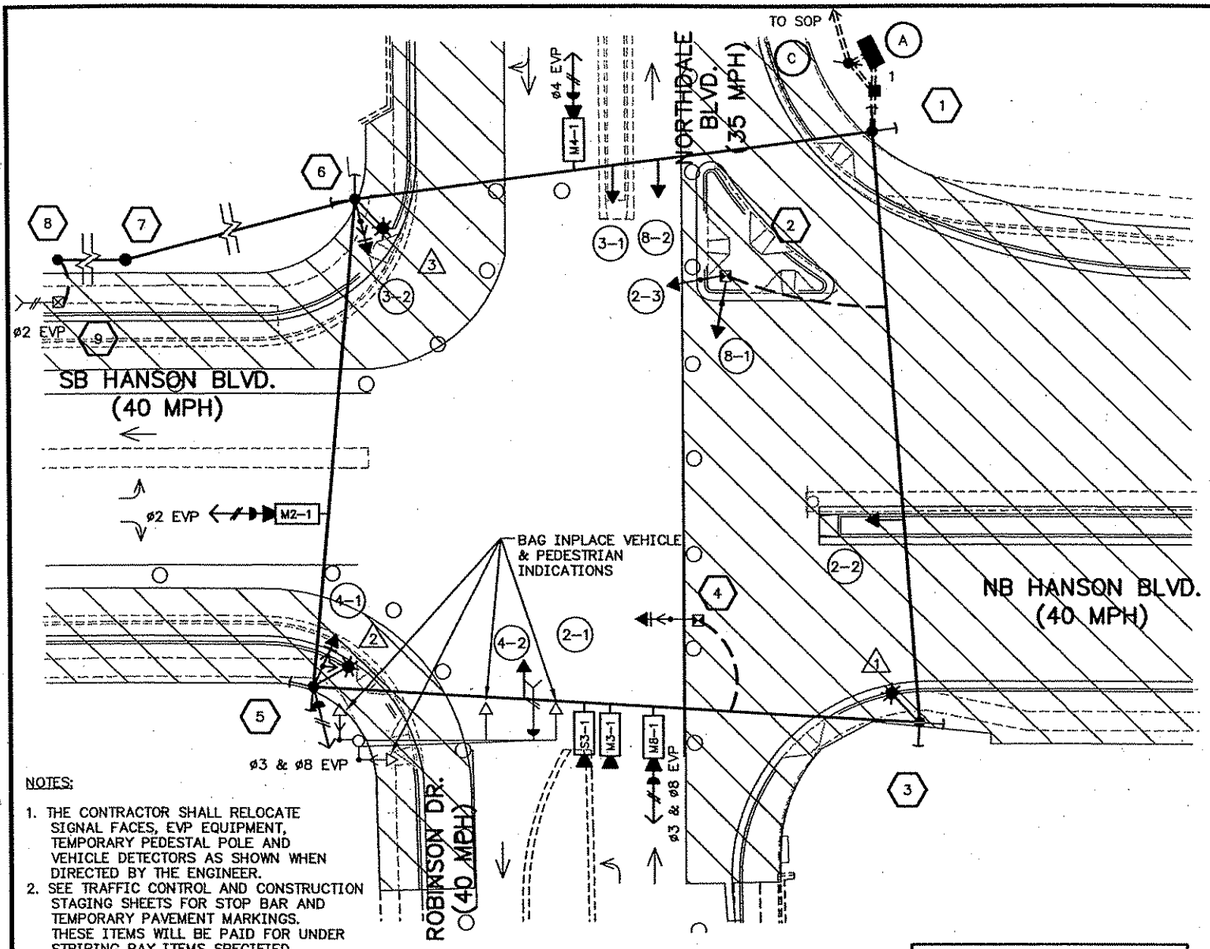
HANSON BLVD. / ROBINSON DR.

TEMPORARY SIGNAL SYSTEM
INTERSECTION LAYOUT

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 497 / 681

PLOT DATE: Jan 07 9:57am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\0



NOTES:

1. THE CONTRACTOR SHALL RELOCATE SIGNAL FACES, EVP EQUIPMENT, TEMPORARY PEDESTAL POLE AND VEHICLE DETECTORS AS SHOWN WHEN DIRECTED BY THE ENGINEER.
2. SEE TRAFFIC CONTROL AND CONSTRUCTION STAGING SHEETS FOR STOP BAR AND TEMPORARY PAVEMENT MARKINGS. THESE ITEMS WILL BE PAID FOR UNDER STRIPING PAY ITEMS SPECIFIED ELSEWHERE IN THESE PLANS.

STAGE 1 PHASE 2 LAYOUT

SYSTEM ID #:	20215
TE #:	3422
METER ADDRESS:	

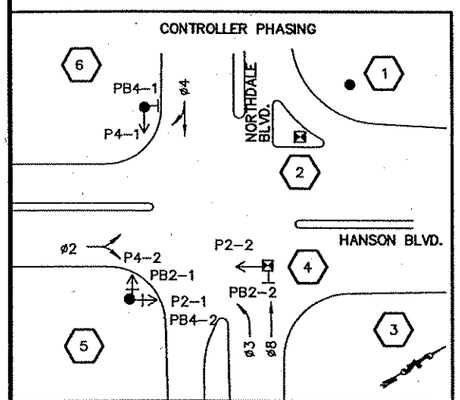
NOTES:

1. THE CONTRACTOR SHALL RELOCATE SIGNAL FACES, EVP EQUIPMENT, TEMPORARY PEDESTAL POLE AND VEHICLE DETECTORS AS SHOWN WHEN DIRECTED BY THE ENGINEER.
2. SEE TRAFFIC CONTROL AND CONSTRUCTION STAGING SHEETS FOR STOP BAR AND TEMPORARY PAVEMENT MARKINGS. THESE ITEMS WILL BE PAID FOR UNDER STRIPING PAY ITEMS SPECIFIED ELSEWHERE IN THESE PLANS.

STAGE 1 PHASE 2A LAYOUT

SYSTEM ID #:	20215
TE #:	3422
METER ADDRESS:	

CONTROLLER PHASING



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE WITH PHASE 3 BEING A PROTECTED LEFT TURN PHASE.

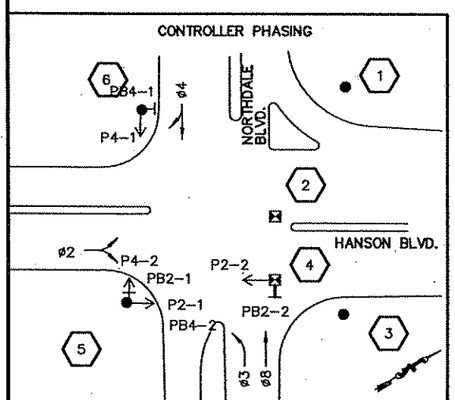
SIGNAL FACES

FACE	R	Y	G	R	Y	G
2-1	●	●	●			
2-2	●	●	●			←
2-3	●				←	←
3-1, 3-2				←	←	←
4-1, 4-2	●	●	●			
8-1, 8-2	●	●	●			

- ALL SIGNAL INDICATIONS SHALL BE 12"
- ALL SIGNAL INDICATIONS SHALL BE LED
- ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD

40' SCALE

CONTROLLER PHASING



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE WITH PHASE 3 BEING A PROTECTED LEFT TURN PHASE.

SIGNAL FACES

FACE	R	Y	G	R	Y	G
2-1	●	●	●			
2-2	●	●	●			←
2-3	●				←	←
3-1, 3-2				←	←	←
4-1, 4-2	●	●	●			
8-1, 8-2	●	●	●			

- ALL SIGNAL INDICATIONS SHALL BE 12"
- ALL SIGNAL INDICATIONS SHALL BE LED
- ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD

40' SCALE

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: JAS	DESIGN BY: MRA
CHKED. BY: AJW	DWG. NAME: 042-TS11
DATE:	01/08/07

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

JOHN F. CRAWFORD

DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

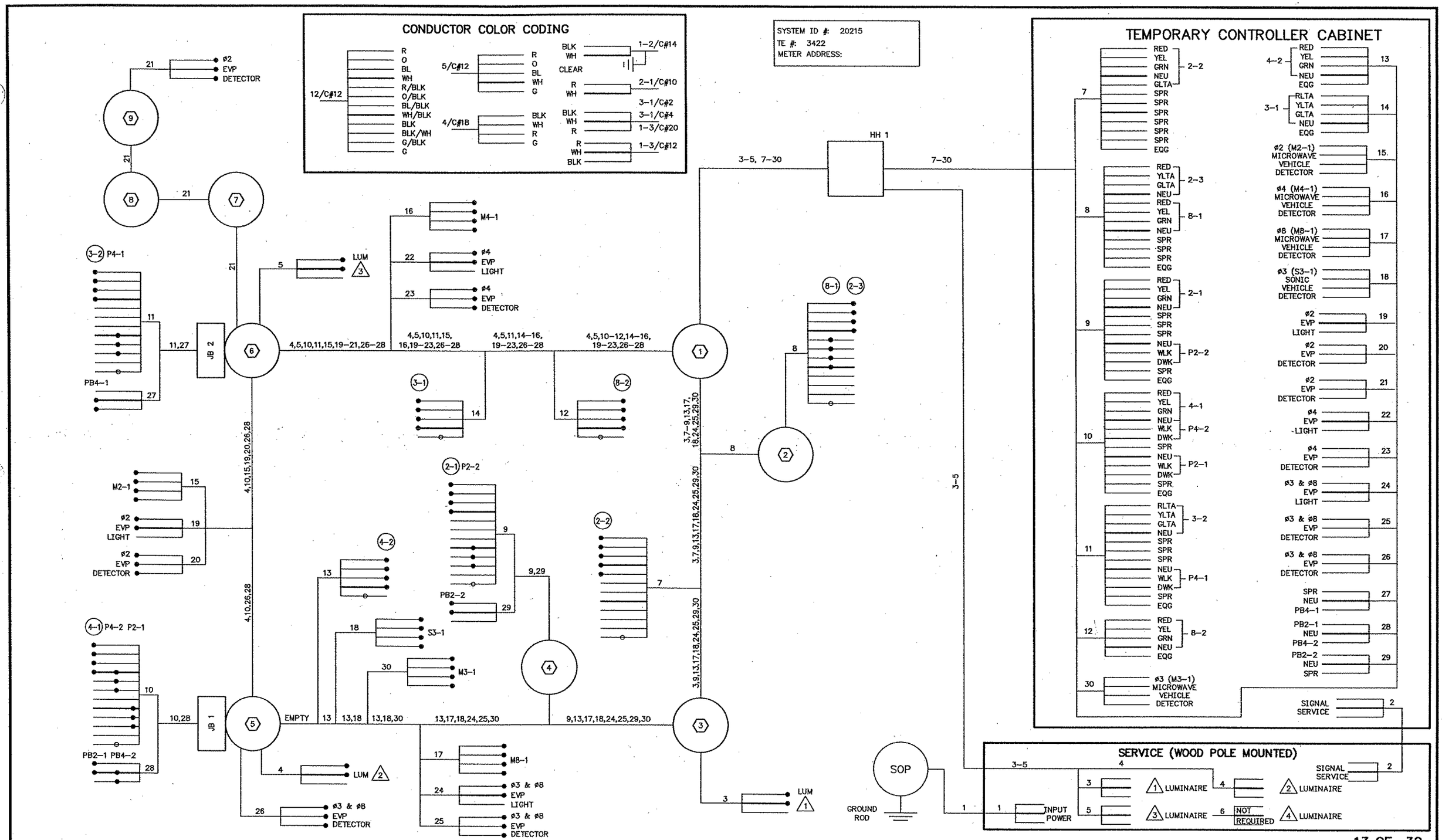
HANSON BLVD. / ROBINSON DR.

TEMPORARY SIGNAL SYSTEM
STAGE 1, PHASE 2 & 2A LAYOUTS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 498 / 681

PLOT DATE: Jan 07 9:58am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\04 dwg



13 OF 32

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS
DESIGN BY: MRA
CHKED. BY: AJW
DWG. NAME: 042-TS22
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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John F. Crawford
JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE
HANSON BLVD. / ROBINSON DR.
TEMPORARY SIGNAL SYSTEM
WIRING DIAGRAM

CITY PROJECT	01-31	S.A.P.	0215-59
S.P.	02-678-17	S.A.P.	02-611-29
		S.A.P.	114-020-28

SHEET NO. 499 / 681

PLOT DATE: Jan 07 9:59am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\C 22.dwg

NMC LOOP DETECTORS

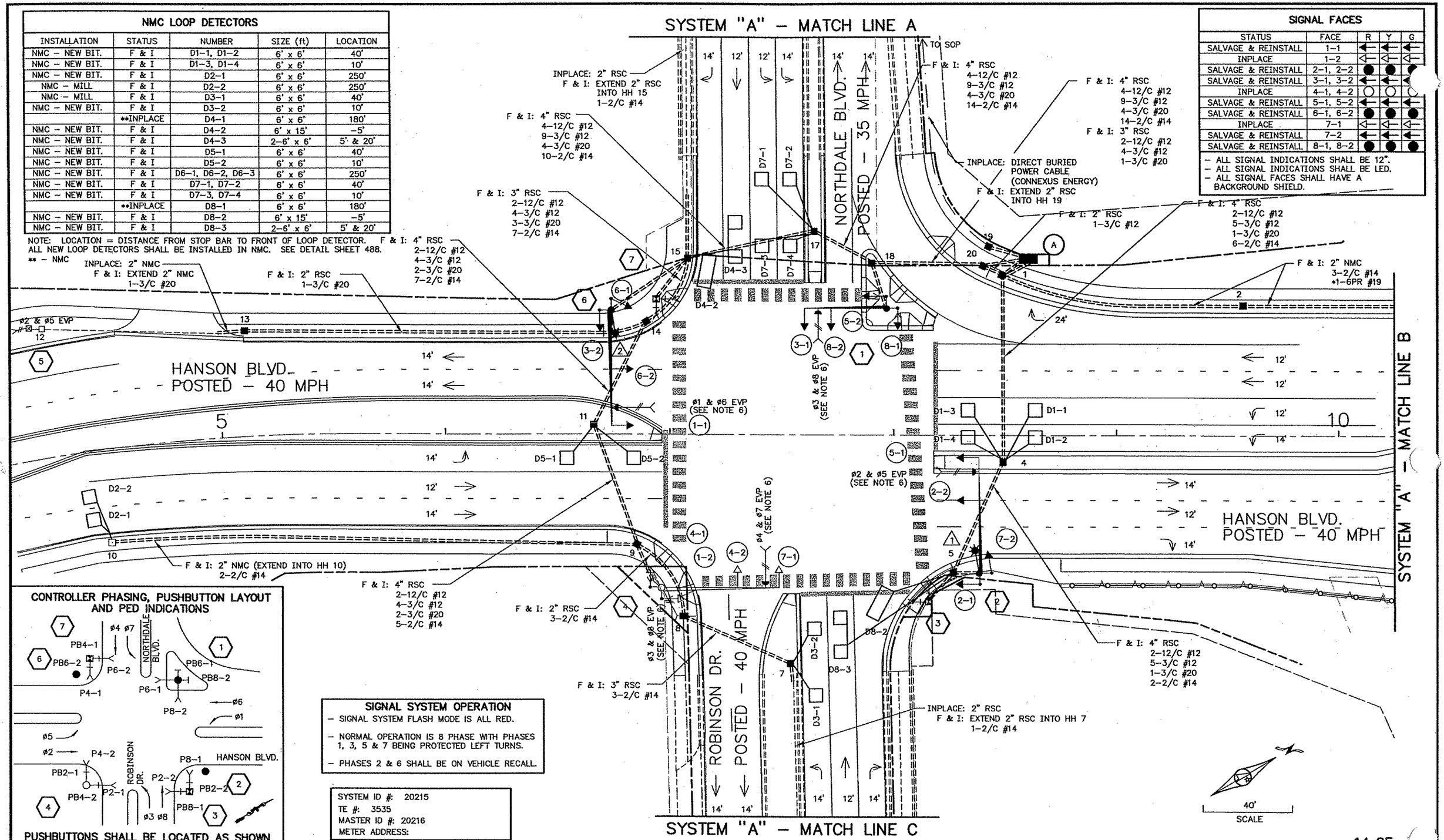
INSTALLATION	STATUS	NUMBER	SIZE (ft)	LOCATION
NMC – NEW BIT.	F & I	D1–1, D1–2	6' x 6'	40'
NMC – NEW BIT.	F & I	D1–3, D1–4	6' x 6'	10'
NMC – NEW BIT.	F & I	D2–1	6' x 6'	250'
NMC – MILL	F & I	D2–2	6' x 6'	250'
NMC – MILL	F & I	D3–1	6' x 6'	40'
NMC – NEW BIT.	F & I	D3–2	6' x 6'	10'
	**INPLACE	D4–1	6' x 6'	180'
NMC – NEW BIT.	F & I	D4–2	6' x 15'	–5'
NMC – NEW BIT.	F & I	D4–3	2–6' x 6'	5' & 20'
NMC – NEW BIT.	F & I	D5–1	6' x 6'	40'
NMC – NEW BIT.	F & I	D5–2	6' x 6'	10'
NMC – NEW BIT.	F & I	D6–1, D6–2, D6–3	6' x 6'	250'
NMC – NEW BIT.	F & I	D7–1, D7–2	6' x 6'	40'
NMC – NEW BIT.	F & I	D7–3, D7–4	6' x 6'	10'
	**INPLACE	D8–1	6' x 6'	180'
NMC – NEW BIT.	F & I	D8–2	6' x 15'	–5'
NMC – NEW BIT.	F & I	D8–3	2–6' x 6'	5' & 20'

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR. ALL NEW LOOP DETECTORS SHALL BE INSTALLED IN NMC. SEE DETAIL SHEET 488.
** – NMC

SIGNAL FACES

STATUS	FACE	R	Y	G
SALVAGE & REINSTALL	1–1	←	←	←
INPLACE	1–2	⇦	⇦	⇦
SALVAGE & REINSTALL	2–1, 2–2	●	●	●
SALVAGE & REINSTALL	3–1, 3–2	←	←	←
INPLACE	4–1, 4–2	○	○	○
SALVAGE & REINSTALL	5–1, 5–2	←	←	←
SALVAGE & REINSTALL	6–1, 6–2	●	●	●
INPLACE	7–1	⇦	⇦	⇦
SALVAGE & REINSTALL	7–2	←	←	←
SALVAGE & REINSTALL	8–1, 8–2	●	●	●

– ALL SIGNAL INDICATIONS SHALL BE 12".
– ALL SIGNAL INDICATIONS SHALL BE LED.
– ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD.



CONTROLLER PHASING, PUSHBUTTON LAYOUT AND PED INDICATIONS

PUSHBUTTONS SHALL BE LOCATED AS SHOWN

SIGNAL SYSTEM OPERATION

– SIGNAL SYSTEM FLASH MODE IS ALL RED.
– NORMAL OPERATION IS 8 PHASE WITH PHASES 1, 3, 5 & 7 BEING PROTECTED LEFT TURNS.
– PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

SYSTEM ID #: 20215
TE #: 3535
MASTER ID #: 20216
METER ADDRESS:

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: JAS
DESIGN BY: MRA
CHKED. BY: AJW
DWG. NAME: 042–TS06
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BLVD. / ROBINSON DR.

SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
(1 OF 2)

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 500 / 681

14 OF

PLOT DATE: Jan 07 9:60am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\04 ...dwg

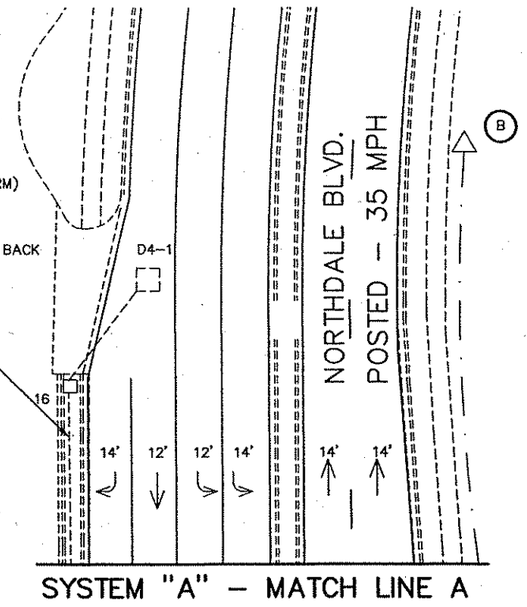
(1) REMOVE: TYPE PA90 POLE FOUNDATION
REMOVE & SALVAGE: TYPE PA90-A-35
2-ONE WAY SIGNALS OVERHEAD
2-TYPE 10B POLE MOUNTED AT 90° & 180°
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
1-TYPE D SIGN (D-3) OVERHEAD. SEE SHEET 494
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
2-R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
REINSTALL SALVAGED: TYPE PA90-A-35
2-ONE WAY SIGNALS OVERHEAD (0' & 11' FROM END OF MASTARM)
2-TYPE 10B POLE MOUNTED AT 90° & 180°
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
1-TYPE D SIGN (D-3) OVERHEAD. SEE SHEET 494
2-R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø3 & ø8) (6' FROM END OF MAST ARM). SEE NOTE 6.
F & I: TYPE PA90 POLE FOUNDATION
(℄ HANSON BLVD STATION 7+97, 57'LT)
F & I: 3" RSC TO HH 18:
2-12/C #12
4-3/C #12
1-3/C #20

INPLACE: 2" RSC
F & I: EXTEND 2" RSC INTO HH 15
1-2/C #14

(2) REMOVE: TYPE PA100 POLE FOUNDATION
TYPE A-55 MAST ARM
REMOVE & SALVAGE: TYPE PA100-A (POLE STANDARD & TRANSFORMER BASE)
D40-9 (LUMINAIRE EXTENSION - DAVIT AT 350°)
1-250 WATT HPS LUMINAIRE
2-ONE WAY SIGNALS OVERHEAD
2-TYPE 10A POLE MOUNTED AT 90° & 180°
1-TYPE D SIGN (D-2) OVERHEAD. SEE SHEET 494.
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
2-R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
REINSTALL SALVAGED: TYPE PA100-A (POLE STANDARD & TRANSFORMER BASE)
D40-9 (LUMINAIRE EXTENSION - DAVIT AT 350°)
1-250 WATT HPS LUMINAIRE
2-ONE WAY SIGNALS OVERHEAD (0' & 17' FROM END OF MAST ARM)
2-TYPE 10A POLE MOUNTED AT 90° & 180°
1-TYPE D SIGN (D-2) OVERHEAD. SEE SHEET 494.
2-R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø2 & ø5) (6' FROM END OF MAST ARM). SEE NOTE 6.
F & I: TYPE PA100 POLE FOUNDATION
(℄ HANSON BLVD STATION 8+39, 61'RT)
TYPE A-50 (MAST ARM - OVERHEADS AT 0' & 17' FROM END OF MAST ARM)
F & I: 3" RSC TO HH 5:
2-12/C #12
2-3/C #12
1-3/C #20

NOTES:

1. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS AND EQUIPMENT PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. MN/DOT TRAFFIC OFFICE PERSONNEL SHALL REVIEW LOCATIONS PRIOR TO INSTALLATION.
2. HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS, PER MN/DOT STANDARD PLATE NO. 8114.
3. A 3/4" HALF-COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6' FROM THE END OF THE MAST ARM.
4. SIGNAL EQUIPMENT SHALL BE PAINTED BLUE. SEE SPECIAL PROVISIONS. THE CONTROLLER CABINET AND SERVICE CABINET SHALL NOT BE PAINTED.
5. INSTALLING SALVAGED POLE AND MAST ARM MOUNTED TYPE C AND TYPE D SIGNS SHALL BE INCIDENTAL.
6. ALL EVP EQUIPMENT (DETECTOR, INDICATOR LIGHTS AND PHASE SELECTORS SALVAGED FROM THE TEMPORARY SIGNAL SYSTEM SHALL BE REINSTALLED AT LOCATIONS SHOWN IN THE PLANS. SEE SPECIAL PROVISIONS.
7. ALL ITEMS OF THE TEMPORARY TRAFFIC SIGNAL SHALL BE REMOVED WHEN DIRECTED BY THE ENGINEER. REFER TO THE SPECIAL PROVISIONS FOR ITEMS TO BE SALVAGED. REMOVAL AND SALVAGE OF THE TEMPORARY SIGNAL SYSTEM SHALL BE INCIDENTAL.
8. ITEMS DENOTED WITH (SYS "B") ARE PART OF SIGNAL SYSTEM "B" AND ARE INDICATED ON THIS SHEET FOR INFORMATION ONLY.
9. INSTALLING SALVAGED SIGNAL EQUIPMENT (I.E., POLES, CONTROLLER CABINET, SERVICE CABINET, VEHICLE AND PEDESTRIAN INDICATIONS) SHALL BE INCIDENTAL.
10. THE CONTRACTOR SHALL REMOVE ALL INPLACE SIGNAL CONTROL CABLE AND FURNISH AND INSTALL ALL NEW CABLE AS INDICATED IN THE PLANS.
11. THE SIGNAL CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF THE TRAFFIC SIGNAL WITH CONSTRUCTION STAGING OF THE AREA ROADWAYS.
12. ITEMS DENOTED WITH AN * ARE INCIDENTAL.
13. HANDHOLES 1,5,7-9,15,17-20 MAY BE SALVAGED AND REINSTALLED OR ADJUSTED IF DEEMED REUSABLE BY THE ENGINEER, OTHERWISE THE CONTRACTOR SHALL FURNISH AND INSTALL NEW PVC HANDHOLES (NOTE 2).
14. THE CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO COMMENCING WORK.
15. LUMINAIRES ARE UNMETERED.



(3) REMOVE: PEDESTAL POLE FOUNDATION
REMOVE & SALVAGE: 8' PEDESTAL POLE AND BASE
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
1-TYPE 4B
REINSTALL SALVAGED: 8' PEDESTAL POLE AND BASE
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
1-TYPE 4B
F & I: PEDESTAL POLE FOUNDATION
(℄ HANSON BLVD STATION 8+15, 74'RT)

F & I: 2" RSC TO HH 5:
3-3/C #12

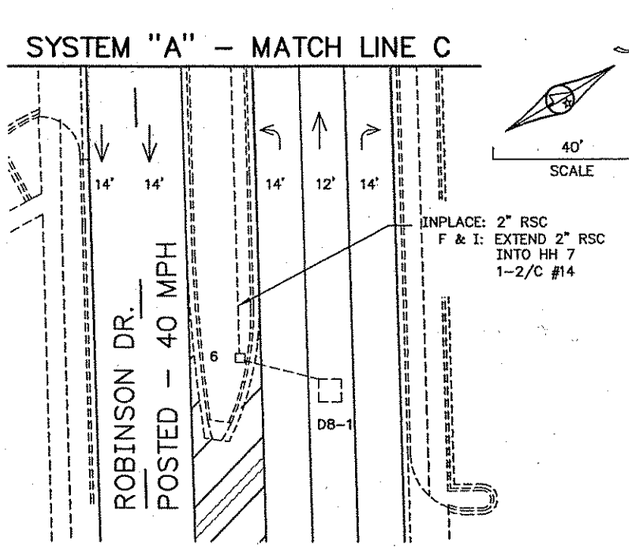
(4) INPLACE: TYPE PA100 POLE FOUNDATION
(℄ HANSON BLVD. STATION 6+97, 69'RT)
TYPE PA100-A-50
2 - ONE WAY SIGNALS OVERHEAD (0' & 17' FROM END OF MAST ARM
2 - TYPE 10B POLE MOUNTED AT 90° & 180°
2 - PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
1 - TYPE D SIGN (D-3) OVERHEAD SEE SHEET 494
2 - TYPE R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
REMOVE & SALVAGE: 2-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
REINSTALL SALVAGED: 1 - ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø4 & ø7) (6' FROM END OF MAST ARM) SEE NOTE 6
1 - ONE WAY EVP DETECTOR (ø3 & ø8) MAST ARM POLE MOUNTED. SEE NOTE 6

INPLACE: 3" RSC:
F & I: EXTEND 3" RSC INTO HH 9:
2-12/C#12
4-3/C#12
2-3/C#20

(5) INPLACE: PEDESTAL FOUNDATION
10' PEDESTAL AND BASE
1 - ONE WAY EVP DETECTOR - MOUNTED ON TOP OF PEDESTAL POLE (ø2 & ø5)

INPLACE: 2" RSC TO HH 12:
F & I: 1-3/C #20

SYSTEM ID #: 20215
TE #: 3535
MASTER ID #: 20216
METER ADDRESS:



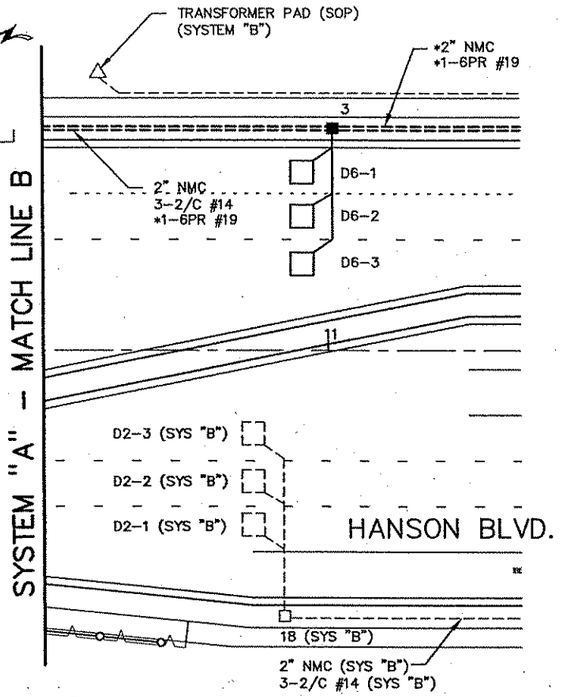
(6) REMOVE: TYPE PA100 POLE FOUNDATION
REMOVE & SALVAGE: TYPE PA100-A-50-D40-9 (DAVIT AT 350°)
LUMINAIRE - 250W HPS
2-ONE WAY SIGNALS OVERHEAD
2-TYPE 10A POLE MOUNTED AT 90° & 180°
1-TYPE D SIGN (D-1) OVERHEAD. SEE SHEET 494
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
2-R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
REINSTALL SALVAGED: TYPE PA100-A-50-D40-9 (DAVIT AT 350°)
LUMINAIRE - 250W HPS
2-ONE WAY SIGNALS OVERHEAD (0' & 23' FROM END OF MAST ARM)
2-TYPE 10A POLE MOUNTED AT 90° & 180°
1-TYPE D SIGN (D-1) OVERHEAD. SEE SHEET 494
2-R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø1 & ø6) (6' FROM END OF MAST ARM) SEE NOTE 6
F & I: TYPE PA100 POLE FOUNDATION
(℄ HANSON BLVD STATION 6+74, 55' LT)
F & I: 3" RSC TO HH 15:
2-12/C #12
2-3/C #12
1-3/C #20

(7) REMOVE: PEDESTAL POLE FOUNDATION
REMOVE & SALVAGE: 8' PEDESTAL POLE AND BASE
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
1-TYPE 4B
REINSTALL SALVAGED: 8' PEDESTAL POLE AND BASE
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
1-TYPE 4B
F & I: PEDESTAL POLE FOUNDATION
(℄ HANSON BLVD STATION 6+94, 60'LT)
F & I: 2" RSC TO HH 15:
3-3/C #12

(B) INPLACE: GROUND MOUNT TRANSFORMER (SOP-CONNEXUS ENERGY)

INPLACE: METERED SIGNAL SERVICE (CONNEXUS) DIRECT BURIED POWER CABLE
3-1/C #2

SALVAGE & REINSTALL: 3-1/C #2



(A) F&I: EQUIPMENT PAD (SEE SHEET 490)
(℄ HANSON BLVD STATION 8+61, 79'LT)
REMOVE & SALVAGE: CONTROLLER CABINET AND CONTROL EQUIPMENT (RELOCATE TO TEMPORARY SIGNAL SYSTEM)
SERVICE CABINET
INSTALL: CONTROLLER CABINET AND CONTROL EQUIPMENT (FURNISHED BY MN/DOT)
REINSTALL SALVAGED: SERVICE CABINET
F & I: CONTROLLER CABINET TO HH 1:
4" RSC
2-12/C #12
4-3/C #12
1-3/C #20
9-2/C #14
*1-6PR #19
F & I: CONTROLLER CABINET TO HH 20:
4" RSC
4-12/C #12
8-3/C #12
4-3/C #20
14-2/C #14
3" RSC
2-12/C #12
4-3/C #12
1-3/C #20
F & I: SERVICE CABINET TO HH 1:
2" RSC
2-3/C #12 (LUM)
F & I: SERVICE CABINET TO HH 19:
METERED SIGNAL SERVICE (POWER BY CONNEXUS)
2" RSC
3-1/C #2
F & I: BETWEEN SERVICE CABINET AND CONTROLLER CABINET:
2" RSC
2-1/C #6
1-1/C #6 BR GR
F & I: EXTEND 3" RSC STUBBED OUT OF CONTROLLER CABINET (THREAD AND CAP BOTH ENDS)
F & I: 3/4" NMC STUBBED OUT OF CONTROLLER CABINET (THREAD AND CAP BOTH ENDS) (FUTURE PHONE LINE)
F & I: EXTEND 2" RSC STUBBED OUT OF CONTROLLER CABINET (THREAD AND CAP BOTH ENDS)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS | DESIGN BY: MRA
CHKED. BY: AJW | DWG. NAME: 042-TS13
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25087

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BLVD. / ROBINSON DR.

SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
(2 OF 2)

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 501 / 681

PLOT DATE: Jan 07 10:00am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\042-TS13.dwg

CONTROLLER CABINET

RLTA, YLTA, GLTA, NEU — 5-1
RED, YEL, GRN, NEU, SPR, SPR, SPR, EQG — 2-2
RED, YEL, GRN, NEU — 2-1
RLTA, YLTA, GLTA, NEU, SPR, SPR, SPR — 7-2
RLTA, YLTA, GLTA, NEU — 5-2
RED, YEL, GRN, NEU, SPR, SPR, SPR, EQG — 8-1
RED, YEL, GRN, NEU — 8-2
RLTA, YLTA, GLTA, NEU, SPR, SPR, SPR, EQG — 3-1
WLK, NEU, DWK — P8-1
WLK, NEU, DWK — P6-1
WLK, NEU, DWK — P4-1
WLK, NEU, DWK — P2-1
WLK, NEU, DWK — P2-2
WLK, NEU, DWK — P4-2
WLK, NEU, DWK — P6-2
WLK, NEU, DWK — P8-2

*90 — INTERCONNECT TO HANSON BLVD./HWY 10 SIGNAL SYSTEM "B" (6PR #19)

1-1 RLTA, YLTA, GLTA, NEU
6-2 RED, YEL, GRN, NEU, SPR, SPR, SPR, EQG — 11
6-1 RED, YEL, GRN, NEU
3-2 RLTA, YLTA, GLTA, NEU, SPR, SPR, SPR, EQG — 12
7-1 RLTA, YLTA, GLTA, NEU
4-2 RED, YEL, GRN, NEU, SPR, SPR, SPR, EQG — 13
4-1 RED, YEL, GRN, NEU
1-2 RLTA, YLTA, GLTA, NEU, SPR, SPR, SPR, EQG — 14
PB2-2 NEU PB8-1 — 23
PB6-1 NEU PB8-2 — 24
PB6-2 NEU PB4-1 — 25
PB2-1 NEU PB4-2 — 26
ø2 & ø5 EVP LIGHT — 27
ø2 & ø5 EVP DETECTOR — 28

ø3 & ø8 EVP LIGHT — 29
ø3 & ø8 EVP DETECTOR — 30
ø1 & ø6 EVP LIGHT — 31
ø1 & ø6 EVP DETECTOR — 32
ø4 & ø7 EVP LIGHT — 33
ø4 & ø7 EVP DETECTOR — 34
ø2 & ø5 EVP DETECTOR — 35
D1-3 — 36
D6-1 — 37
D6-2 — 38
D6-3 — 39
D1-1 — 40
D1-2 — 41
D8-2 — 42
D8-3 — 43
D8-1 — 44
D7-1 — 45
D7-2 — 46
D7-3 — 47
D7-4 — 48
D4-2 — 49
D4-3 — 50
D4-1 — 51
D5-1 — 52
D5-2 — 53
D2-1 — 54
D2-2 — 55
D3-1 — 56
D3-2 — 57
ø3 & ø8 EVP DETECTOR — 58
D1-4 — 59

SIGNAL SERVICE — 2

NOTES:
1. POWER CONNECTION BY CONNEXUS ENERGY.
* DENOTES INTERCONNECT PAY ITEM.

CONDUCTOR COLOR CODE

TO SIGNAL CABINET		TO DEVICE		
3/C#20	R OR O / WH OR YEL / BLK OR BL	12/C#12	R, O, BL, WH, R/BLK, O/BLK, BL/BLK, WH/BLK, BLK, BLK/WH, G/BLK, G	
2/C#14	BLK / CLR			
2-1/C	BLK / WH			
6PR#19				
		7/C#14 CABLE	R RED, O YEL, BL GRN, WH NEU, Y YLTA, BLK GLTA, BRN SPR	5-SECTION SIGNAL INDICATION
		5/C#14 CABLE	R RED, O YEL, BL GRN, WH NEU, BLK GLTA	3 & 4-SECTION SIGNAL INDICATION
		4/C#14 CABLE	R DWK, BL WLK, WH NEU, BLK SPR	PEDESTRIAN INDICATION
		2/C#14 CABLE	BLK EVP/PB/FLASHER, WH NEU	
		5/C#12	R, O, BL, WH, G	
		3/C#12	R, WH, BLK	

BASE OF POLE OR PEDESTAL

NOTE:
ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

SYSTEM ID #: 20215
TE #: 3535
MASTER ID #: 20216
METER ADDRESS:

INTERCONNECT TO HANSON BLVD./HWY 10 SIGNAL SYSTEM "B"

SERVICE CABINET

3 (UNMETERED) LUMINAIRE 1 — 5 NOT REQUIRED LUMINAIRE 3
4 (UNMETERED) LUMINAIRE 2 — 6 NOT REQUIRED LUMINAIRE 4
INPUT POWER 3-1/C#2 (METERED) 1
2 2-1/C#6 (METERED) SIGNAL SERVICE

SEE NOTE 1

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS | DESIGN BY: MRA
CHKED. BY: AJW | DWG. NAME: 042-TS23
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE
HANSON BLVD. / ROBINSON DR.
SIGNAL SYSTEM "A"
FIELD WIRING DIAGRAM

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 502 / 681

16 OF

PLOT DATE: Jan 07 10:02am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\04 3.dwg

NMC LOOP DETECTORS

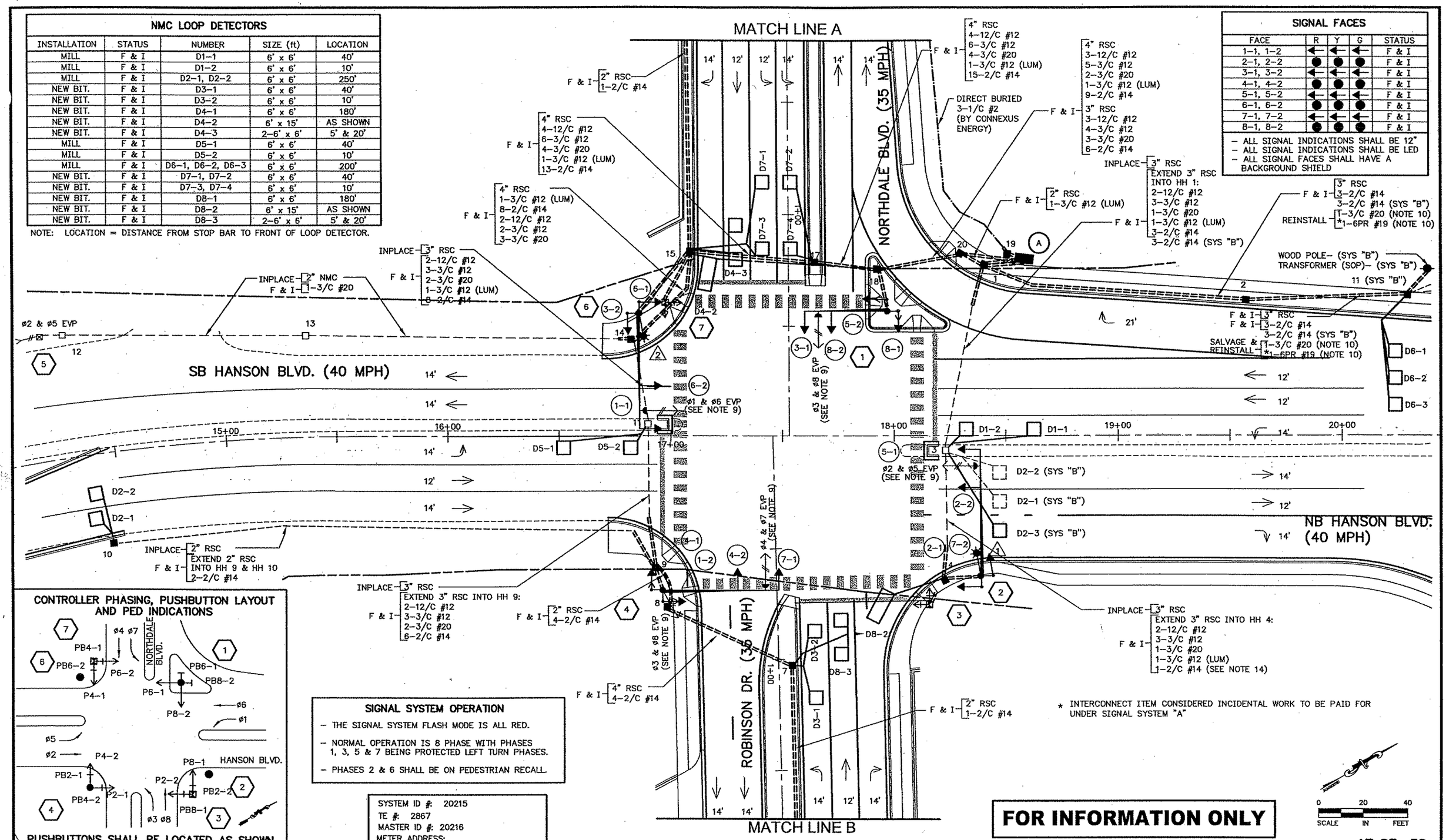
INSTALLATION	STATUS	NUMBER	SIZE (ft)	LOCATION
MILL	F & I	D1–1	6' x 6'	40'
MILL	F & I	D1–2	6' x 6'	10'
MILL	F & I	D2–1, D2–2	6' x 6'	250'
NEW BIT.	F & I	D3–1	6' x 6'	40'
NEW BIT.	F & I	D3–2	6' x 6'	10'
NEW BIT.	F & I	D4–1	6' x 6'	180'
NEW BIT.	F & I	D4–2	6' x 15'	AS SHOWN
NEW BIT.	F & I	D4–3	2–6' x 6'	5' & 20'
MILL	F & I	D5–1	6' x 6'	40'
MILL	F & I	D5–2	6' x 6'	10'
MILL	F & I	D6–1, D6–2, D6–3	6' x 6'	200'
NEW BIT.	F & I	D7–1, D7–2	6' x 6'	40'
NEW BIT.	F & I	D7–3, D7–4	6' x 6'	10'
NEW BIT.	F & I	D8–1	6' x 6'	180'
NEW BIT.	F & I	D8–2	6' x 15'	AS SHOWN
NEW BIT.	F & I	D8–3	2–6' x 6'	5' & 20'

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

SIGNAL FACES

FACE	R	Y	G	STATUS
1–1, 1–2	←	←	←	F & I
2–1, 2–2	●	●	●	F & I
3–1, 3–2	←	←	←	F & I
4–1, 4–2	●	●	●	F & I
5–1, 5–2	←	←	←	F & I
6–1, 6–2	●	●	●	F & I
7–1, 7–2	←	←	←	F & I
8–1, 8–2	●	●	●	F & I

– ALL SIGNAL INDICATIONS SHALL BE 12"
– ALL SIGNAL INDICATIONS SHALL BE LED
– ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD



CONTROLLER PHASING, PUSHBUTTON LAYOUT AND PED INDICATIONS

PUSHBUTTONS SHALL BE LOCATED AS SHOWN

SIGNAL SYSTEM OPERATION

– THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
– NORMAL OPERATION IS 8 PHASE WITH PHASES 1, 3, 5 & 7 BEING PROTECTED LEFT TURN PHASES.
– PHASES 2 & 6 SHALL BE ON PEDESTRIAN RECALL.

SYSTEM ID #: 20215
TE #: 2867
MASTER ID #: 20216
METER ADDRESS:

FOR INFORMATION ONLY

SCALE 0 20 40 IN FEET

17 OF 32

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: DESIGN BY:
CHKED. BY: DWG. NAME: 042–TS32
DATE:

URS
Suite 500 Baker Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ MN LIC. NO. _____

TH 10/HANSON BOULEVARD
INTERCHANGE
HANSON BLVD. / ROBINSON DR.
SIGNAL SYSTEM "A"
INPLACE INTERSECTION LAYOUT
(1 OF 2)

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 503 / 681

PLOT DATE: Jan 07 10:01am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\0...dwg

1

℄ HANSON BLVD. STA. 17+97, 56'LT.
TYPE PA90 POLE FOUNDATION
TYPE PA90–A–35
F & I — 2 – ONE WAY SIGNALS OVERHEAD (0' & 11' FROM END OF MAST ARM
2 – TYPE 10B POLE MOUNTED AT 90° & 180°
2 – PEDESTRIAN PUSHBUTTONS AND SIGNS (R10–4b)
1 – TYPE "D" SIGN PANEL OVERHEAD (D–4). SEE SHEET 115
2 – TYPE R6–1L OR R (36"x12") SIGNS POLE MOUNTED BACK TO BACK
INSTALL SALVAGED (SEE NOTE 9) — ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø3 & ø8) (6' FROM END OF MAST ARM)

EXTEND INTO HH 18:
F & I — 3" RSC
2–12/C#12
3–3/C#12
1–3/C#20

2

℄ HANSON BLVD. STA. 18+69, 63'RT.
TYPE PA100 POLE FOUNDATION
TYPE PA100–A–55–D40–9 (DAVIT AT 350°)
LUMINAIRE – 250 WATT HPS
F & I — 2 – ONE WAY SIGNALS OVERHEAD (0' & 17' FROM END OF MAST ARM
2 – TYPE 10A POLE MOUNTED AT 90° & 180°
1 – TYPE "D" SIGN PANEL OVERHEAD (D–3). SEE SHEET 115.
2 – TYPE R6–1L OR R (36"x12") SIGNS POLE MOUNTED BACK TO BACK
INSTALL SALVAGED (SEE NOTE 9) — ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø2 & ø5) (6' FROM END OF MAST ARM)

EXTEND INTO HH 4:
F & I — 3" RSC
2–12/C#12
1–3/C#12
1–3/C#20
1–3/C #12 (LUM)

3

℄ HANSON BLVD. STA. 18+16, 76' RT.
PEDESTAL POLE FOUNDATION
F & I — 8' PEDESTAL POLE AND BASE
2 – PEDESTRIAN PUSHBUTTONS AND SIGNS (R10–4b)
1 – TYPE 4B

EXTEND INTO HH 4:
F & I — 2" RSC
2–3/C #12
2–12/C #12

A

F & I — EQUIPMENT PAD (SEE DETAILS)
CONTROLLER CABINET (FURNISHED BY DEPARTMENT) AND SERVICE CABINET (SEE DETAILS)

CONTROLLER CABINET TO HH 1:
F & I — 4" RSC
2–12/C #12
3–3/C #12
1–3/C #20
6–2/C #14
REINSTALL — *1–6PR #19 (NOTE 10)
1–3/C #20 (NOTE 10)

CONTROLLER CABINET TO HH 20:
F & I — 4" RSC
3–12/C #12
5–3/C #12
2–3/C #20
9–2/C #14
3" RSC
3–12/C #12
4–3/C #12
3–3/C #20
6–2/C #14

SERVICE CABINET TO HH 1:
F & I — 2" RSC
2–3/C #12 (LUM)

SERVICE CABINET TO HH 19:
METERED SIGNAL SERVICE (POWER BY CONNEXUS)
F & I — 2" RSC
3–1/C #2

BETWEEN SERVICE CABINET AND CONTROLLER CABINET:
F & I — 2" RSC
2–1/C #6
1–1/C #6 BR GR

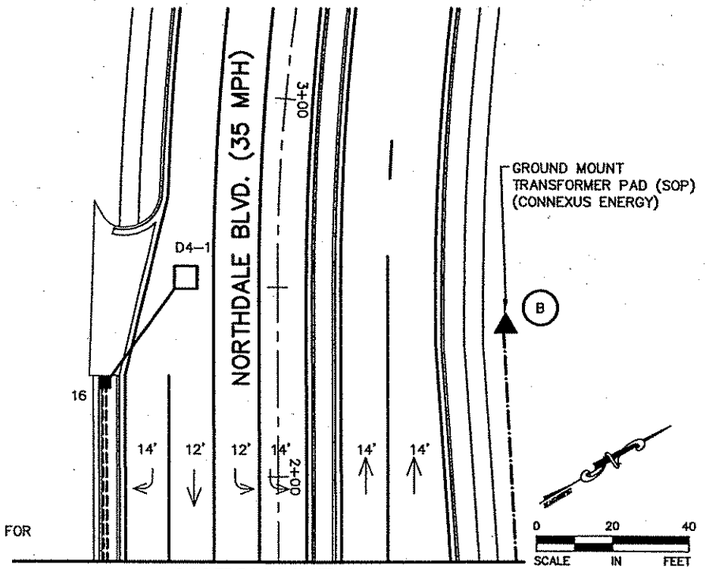
F & I — EXTEND 3" RSC STUB OUT OF CONTROLLER CABINET (THREAD AND CAP BOTH ENDS)

* INTERCONNECT ITEM CONSIDERED INCIDENTAL WORK TO BE PAID FOR UNDER SIGNAL SYSTEM "A"

B

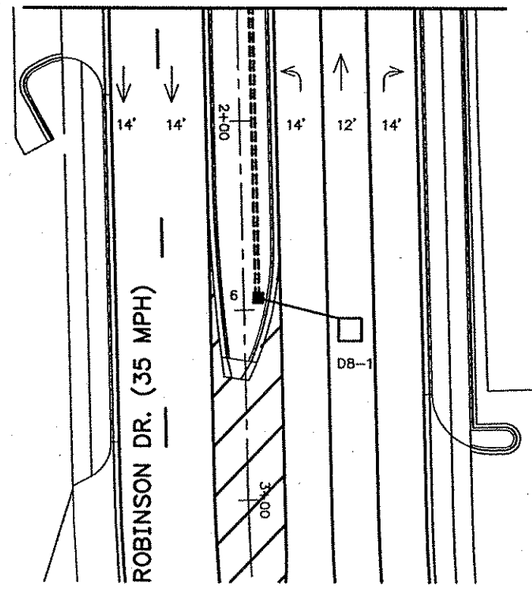
GROUND MOUNT TRANSFORMER PAD (SOP) (RELOCATED BY CONNEXUS ENERGY)

EXTEND INTO HH 19:
F & I — METERED SIGNAL SERVICE (POWER BY CONNEXUS)
2" RSC STUB OUT OF HH 19
3–1/C #2 (DIRECT BURIED)



MATCH LINE A

MATCH LINE B



4

℄ HANSON BLVD. STA. 16+96, 70'RT.
TYPE PA100 POLE FOUNDATION
TYPE PA100–A–50
F & I — 2 – ONE WAY SIGNALS OVERHEAD (0' & 17' FROM END OF MAST ARM
2 – TYPE 10B POLE MOUNTED AT 90° & 180°
2 – PEDESTRIAN PUSHBUTTONS AND SIGNS (R10–4b)
1 – TYPE "D" SIGN PANEL OVERHEAD (D–4). SEE SHEET 115.
2 – TYPE R6–1R OR L (36"x12") SIGNS POLE MOUNTED BACK TO BACK
INSTALL SALVAGED (SEE NOTE 9) — ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø4 & ø7) (6' FROM END OF MAST ARM)
ONE WAY EVP DETECTOR (ø3 & ø8) MAST ARM POLE MOUNTED

EXTEND INTO HH 9:
F & I — 3" RSC
2–12/C#12
3–3/C#12
2–3/C#20

5

INPLACE — PEDESTAL FOUNDATION
10' PEDESTAL AND BASE
ONE WAY EVP DETECTOR – MOUNTED ON TOP OF PEDESTAL POLE (ø2 & ø5)

EXTEND INTO HH 12:
INPLACE — 2" RSC
F & I — 1–3/C #20

6

℄ HANSON BLVD. STA. 16+86, 55' LT.
TYPE PA100 POLE FOUNDATION
TYPE PA100–A–50–D40–9 (DAVIT AT 350°)
LUMINAIRE – 250 WATT HPS
F & I — 2 – ONE WAY SIGNALS OVERHEAD (0' & 17' FROM END OF MAST ARM)
1 – WELD HUB & PLUG (23' FROM END OF MAST ARM – FUTURE OVERHEAD SIGNAL)
2 – TYPE 10A POLE MOUNTED AT 90° & 180°
1 – TYPE "D" SIGN PANEL OVERHEAD (D–2). SEE SHEET 115.
2 – TYPE R6–1R OR L (36"x12") SIGNS POLE MOUNTED BACK TO BACK
INSTALL SALVAGED (SEE NOTE 9) — ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø1 & ø6) (6' FROM END OF MAST ARM)

EXTEND INTO HH ~~14~~ 15:
F & I — 3" RSC
2–12/C#12
2–3/C#12
1–3/C#20
1–3/C #12 (LUM)

7

℄ HANSON BLVD. STA. 16+98, 60' LT.
PEDESTAL POLE FOUNDATION
F & I — 8' PEDESTAL POLE AND BASE
2 – PEDESTRIAN PUSHBUTTONS AND SIGNS (R10–4b)
1 – TYPE 4B

EXTEND INTO HH 15:
F & I — 2" RSC
2–3/C #12
2–12/C #12

NOTES:
1.) SEE SPECIAL PROVISIONS FOR MN/DOT FURNISHED MATERIALS.
2.) ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
3.) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
4.) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. MN/DOT TRAFFIC OFFICE PERSONNEL SHALL REVIEW LOCATIONS PRIOR TO INSTALLATION.
5.) HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS, PER MN/DOT STANDARD PLATE NO. 8114A.
6.) A 3/4" HALF–COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION SHALL BE FURNISHED AND INSTALLED 6' FROM THE END OF EACH MAST ARM.
7.) ALL NEW LOOP DETECTORS SHALL BE PREFORMED NMC LOOP DETECTORS. SEE DETAIL SHEET 109.
8.) FOR TYPE "C" & TYPE "D" SIGNS SEE SHEET 115. TYPE "C" & TYPE "D" SIGNS SHALL BE INCIDENTAL TO SIGNAL SYSTEM.
9.) ALL EVP EQUIPMENT (DETECTOR, INDICATOR LIGHT AND PHASE SELECTORS) SALVAGED FROM TEMPORARY SIGNAL SYSTEM SHALL BE REINSTALLED AT LOCATIONS SHOWN IN THE PLANS. SEE SPECIAL PROVISIONS.
10.) THE 1–3/C #20 (ADVANCED EVP DETECTOR) WIRE AND 1–6PR #19 (INTERCONNECT) WIRE SHALL BE DISCONNECTED FROM THE INPLACE CONTROLLER CABINET, PULLED BACK AND COILED IN HH 13 (SYS "B") UNTIL COMPLETION OF INSTALLING NEW CONDUIT RUNS AND HANDHOLES. THE CONTRACTOR SHALL THEN REINSTALL TO NEW PERMANENT CONTROLLER CABINET.
11.) ALL ITEMS OF THE TEMPORARY SIGNAL SYSTEM SHALL BE REMOVED WHEN DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISIONS FOR ITEMS TO BE SALVAGED. REMOVAL OF THE TEMPORARY SIGNAL SYSTEM SHALL BE INCIDENTAL TO THE REVISE SIGNAL SYSTEM "A".
12.) ITEMS DENOTED WITH (SYS "B") ARE PART OF SIGNAL SYSTEM "B" AND ARE INDICATED ON THIS SHEET FOR INFORMATION ONLY.
13.) SIGNAL EQUIPMENT SHALL BE PAINTED BLUE. SEE SPECIAL PROVISIONS. THE CONTROLLER CABINET AND SERVICE CABINET SHALL NOT BE PAINTED.
14.) PEDESTAL FOUNDATIONS SHALL BE IN ACCORDANCE WITH MN/DOT STANDARD PLATE 8112C.
15.) PEDESTAL POLE AND BASE SHALL BE IN ACCORDANCE WITH MN/DOT STANDARD PLATE 8122C.

AS–BUILT PLAN INFORMATION IS FURNISHED WITHOUT WARRANTY AS TO ACCURACY OR FITNESS FOR ANY PURPOSE. USERS SHOULD FIELD VERIFY LOCATIONS AND PLAN INFORMATION.

FOR INFORMATION ONLY

SYSTEM ID #: 20215
TE #: 2867
MASTER ID #: 20216
METER ADDRESS:

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: | DESIGN BY:
CHKED. BY: | DWG. NAME: 042–TS24
DATE:

URS
Thresher Square
701 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ MN LIC. NO. _____

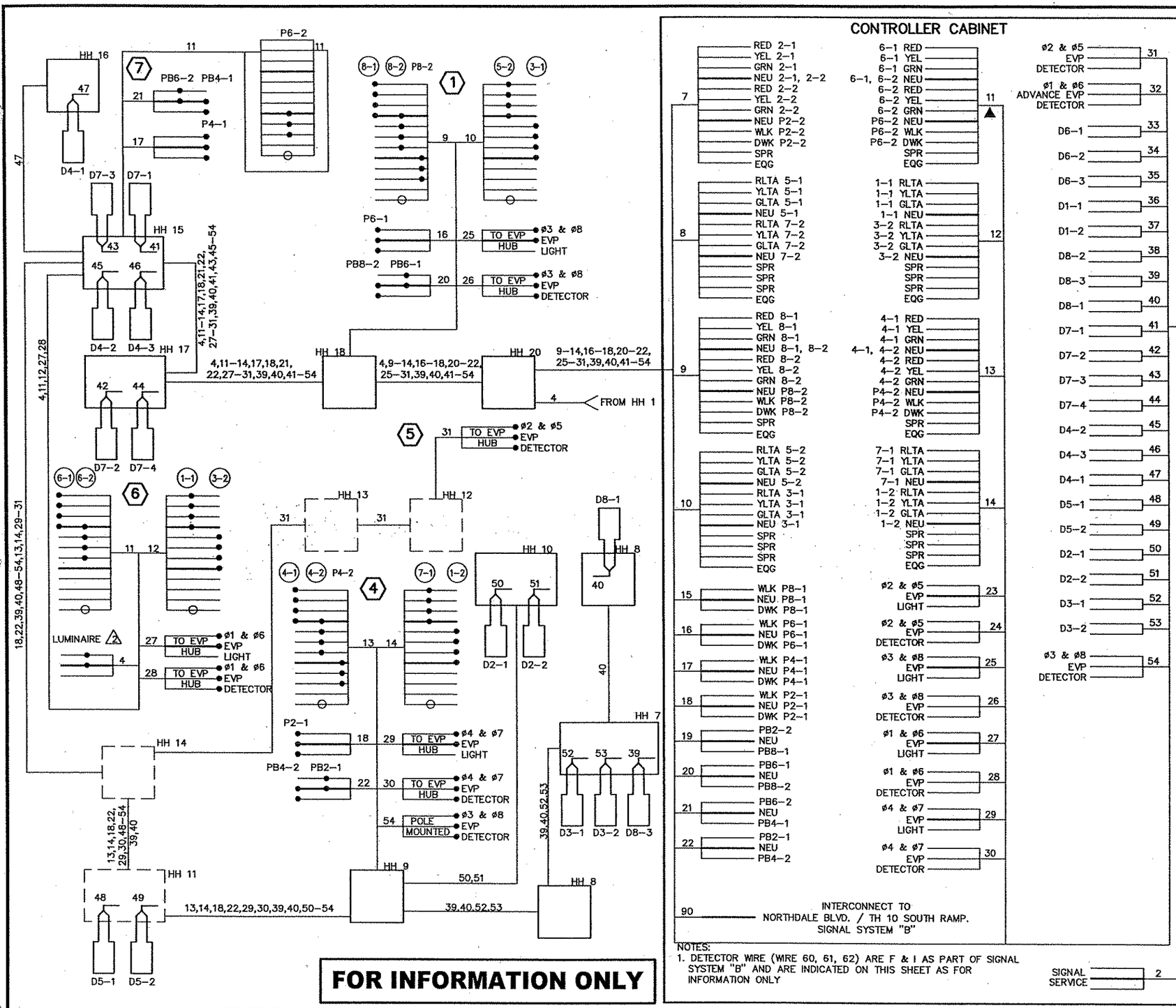
TH 10/HANSON BOULVARD
INTERCHANGE
HANSON BLVD. / ROBINSON DR.
SIGNAL SYSTEM "A"
INPLACE INTERSECTION LAYOUT
(2 OF 2)

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 504 / 681

18 OF

PLOT DATE: Jan 007 10:03am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\TS24.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: DESIGN BY:
CHKED. BY: DWG. NAME: 042–TS33
DATE:

URS
Suite 2500
707 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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DATE: MN LIC. NO.

TH 10/HANSON BOULEVARD
INTERCHANGE
HANSON BLVD. / ROBINSON DR.
SIGNAL SYSTEM "A"
INPLACE FIELD WIRING DIAGRAM

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 505 / 681

19 OF 32

PLOT DATE: Jo 07 10:03am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\0

(1) INPLACE
TYPE PA100 POLE FOUNDATION
TYPE PA100-A-40-D40-9 (DAVIT AT 350°)
ONE WAY SIGNAL OVERHEAD
TYPE 10B POLE MOUNTED AT 0°
LUMINAIRE-200 WATT H.P.S.
R9-3a SIGN PANEL - FACING POLE 5
R6-1R SIGN PANEL - POLE MOUNTED AT 180°
TYPE "D" SIGN PANEL
ONE WAY EVP DETECTOR AND LIGHT ø6

(2) INPLACE
PEDESTAL FOUNDATION
8' PEDESTAL POLE AND BASE
TYPE 4A
R9-3a SIGN PANEL - FACING POLE 3

EXTEND INTO HH 3:
INPLACE
3" RSC
1-5/C #12

(5) INPLACE
PEDESTAL FOUNDATION
15' PEDESTAL POLE AND BASE
TYPE 6A
2 - R9-3a SIGN PANEL - FACING POLES 1 & 4
R10-12 SIGN PANEL - POLE MOUNTED

EXTEND INTO HH 9:
INPLACE
3" RSC
1-12/C #12

EXTEND INTO HH 10:
INPLACE
3" RSC
1-12/C #12
2-3/C #12
1-3/C #20
1-3/C #12 (LUM)

(3) INPLACE
TYPE PA85 POLE FOUNDATION
TYPE PA85-A-25-D40-9 (DAVIT AT 350°)
ONE WAY SIGNAL OVERHEAD
TYPE 20B POLE MOUNTED AT 270°
LUMINAIRE-200 WATT H.P.S.
R9-3a SIGN PANEL - FACING POLE 2
R6-1L SIGN PANEL - POLE MOUNTED AT 0°
TYPE "D" SIGN PANEL
ONE WAY EVP DETECTOR AND LIGHT (ø2)

(4) INPLACE
TYPE PA85 POLE FOUNDATION
TYPE PA85-A-20
ONE WAY SIGNAL OVERHEAD
TYPE 20B POLE MOUNTED AT 270°
R9-3a SIGN PANEL - FACING POLE 5
2 - R6-1R SIGN PANEL - POLE MOUNTED AT 0° & 180°
TYPE "D" SIGN PANEL
ONE WAY EVP DETECTOR AND LIGHT (ø4)

3" RSC (SYS "A")
EXTEND 3" RSC INTO HH 1 (SYS "A"):
INPLACE
2-12/C #12 (SYS "A")
3-3/C #12 (SYS "A")
1-3/C #20 (SYS "A")
1-3/C #12 (LUM) (SYS "A")
5-2/C #14 (SYS "A")
3-2/C #14
2-2/C #14

EXTEND INTO HH 7:
INPLACE
3" RSC
2-12/C #12
1-3/C #12
1-3/C #20
1-3/C #12 (LUM)

EXTEND INTO HH 8:
INPLACE
3" RSC
2-12/C #12
1-3/C #12
1-3/C #20

INPLACE
2" RSC INTO HH 11
3-1/C #0 (NOTE 4)

INPLACE
3" RSC
1-3/C #20 (SYS "A")
*1-6PR #19 (SYS "A")
3-2/C #14
2-2/C #14

INPLACE
3" RSC (SYS "A")
3-2/C #14 (SYS "A")
3-2/C #14
1-3/C #20 (SYS "A")
*1-6PR #19 (SYS "A")
2-2/C #14

INPLACE
3" RSC (SYS "A")
3-2/C #14 (SYS "A")
3-2/C #14
1-3/C #20 (SYS "A")
*1-6PR #19 (SYS "A")

INPLACE
2" NMC
1-2/C #14

INPLACE
4" RSC
2-12/C #12
1-5/C #12
1-3/C #12
2-3/C #20
5-2/C #14
2-3/C #12 (LUM)
1-6PR #19

INPLACE
3" RSC
2-12/C #12
1-3/C #12
2-3/C #20
4-2/C #14
2-3/C #12 (LUM)
1-6PR #19

INPLACE
2" NMC
2-3/C #12 (LUM)

INPLACE
3" RSC
2-12/C #12
1-3/C #12
1-3/C #20
2-2/C #14
2-3/C #12 (LUM)

INPLACE
3" RSC
2-2/C #14
1-3/C #20
1-6PR #19

INPLACE
3" RSC
1-3/C #20
1-6PR #19

INPLACE
3" RSC
2-12/C #12
1-3/C #12
1-3/C #20
2-3/C #12 (LUM)

INPLACE
TYPE D40-12 STREET LIGHT POLE
WITH LUMINAIRE

EXTEND INTO HH 7:
INPLACE
1 1/4" RSC
1-3/C #12 (LUM)

SIGNAL FACES

SIGNAL FACE	R	Y	G	R	Y	G	STATUS
2-1, 2-2	○	○	○				INPLACE
4-1, 4-2, 4-3, 4-4	○	○	○				INPLACE
6-1, 6-2	○	○	○				INPLACE
6-3, 6-4	○	○	○		◁	◁	INPLACE

- ALL SIGNAL INDICATIONS SHALL BE 12"

LOOP DETECTORS

INSTALLATION	STATUS	NUMBER	SIZE (ft)	LOCATION
INPLACE	INPLACE	D1-1	6' x 20'	0'
INPLACE	INPLACE	D1-2	6' x 20'	30'
INPLACE	INPLACE	D2-1, D2-2	6' x 6'	250'
MILL	F & I	D2-3	6' x 6'	250'
INPLACE	INPLACE	D4-1	6' x 6'	120'
INPLACE	INPLACE	D4-2	2-6' x 6'	5' & 20'
INPLACE	INPLACE	D4-3	2-6' x 6'	5' & 20'
INPLACE	INPLACE	D6-1, D6-2	6' x 6'	250'

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR

SIGNAL FACE PHASING

HEADS 6-3 AND 6-4

R, Y, G — ø6
Y, G — ø1

HH 1, HH 2, HH 3, HH 4, HH 5, HH 6, HH 7, HH 8, HH 9, HH 10
D4-1, D4-2, D4-3
D6-1, D6-2, D6-3
D2-1, D2-2, D2-3
D1-1, D1-2
JB 1
ø6 EVP, ø2 EVP, ø4 EVP
19 (SYS "A"), 20 (SYS "A"), 1 (SYS "A"), 2 (SYS "A"), 3 (SYS "A"), 4 (SYS "A"), 11, 13
CONTROLLER AND CABINET (SYS "A")
21', 12', 14', 20', 16', 13'

(A) EQUIPMENT PAD
CONTROLLER AND CABINET
SERVICE CABINET

(B) INPLACE
WOOD POLE
TRANSFORMER (SOP - BY CONNEXUS)
EXTEND INTO HH 11:
2" RSC RISER, WEATHERHEAD AND CONDUIT
3-1/C #0 (NOTE 4)

CONTROLLER CABINET TO HH 1:
INPLACE
4" RSC
2-12/C #12
1-5/C #12
1-3/C #12
2-3/C #20
7-2/C #14
1-6PR #19

CONTROLLER CABINET TO HH 10:
INPLACE
4" RSC
4-12/C #12
3-3/C #12
2-3/C #20

CONTROLLER CABINET TO HH 13:
INPLACE
3" RSC
1-3/C #20
1-6PR #19
3-2/C #14
2-2/C #14

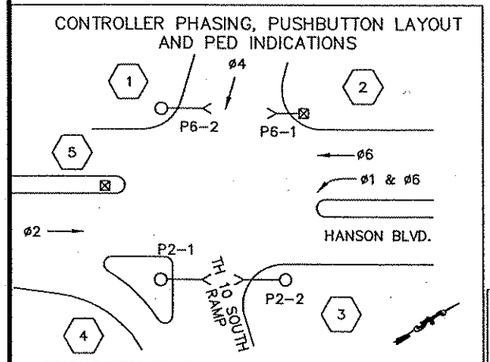
SERVICE CABINET TO HH 10:
INPLACE
2" RSC
3-3/C #12 (LUM)

SERVICE CABINET TO HH 11:
INPLACE
2" RSC
3-1/C #0 (NOTE 4)

BETWEEN SERVICE CABINET AND CONTROLLER CABINET:
INPLACE
2" RSC
2-1/C #6
1-1/C #6 BR GR

INPLACE
STUB OUT 1 - 2" RSC AND 1 - 3" RSC FROM CONTROLLER CABINET TO WEST THREAD BOTH ENDS.

CONTROLLER PHASING, PUSHBUTTON LAYOUT AND PED INDICATIONS



PUSHBUTTONS SHALL BE LOCATED AS SHOWN

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE WITH PHASE 1 BEING A PROTECTED/PERMISSIVE LEFT TURN PHASE.
- PHASES 2 & 6 SHALL BE ON PEDESTRIAN RECALL.

SYSTEM ID #: 20218
T.E. #: 2882
MASTER ID #: 20216
METER ADDRESS:

NOTES:
1. ALL ITEMS ON THIS SHEET ARE INPLACE AND ARE PROVIDED FOR INFORMATION ONLY.
2. THE CONTRACTOR SHALL REMOVE ALL ITEMS OF THE INPLACE TRAFFIC SIGNAL INCLUDING THE LIGHTING UNITS AND LIGHT BASES WHEN DIRECTED BY THE ENGINEER. REFER TO THE SPECIAL PROVISONS FOR ITEMS TO BE SALVAGED. REMOVING AND SALVAGING OF THE INPLACE TRAFFIC SIGNAL WILL BE INCIDENTAL.
3. HAULING OF SALVAGED SIGNAL EQUIPMENT SHALL BE PAID FOR AS HAUL SALVAGED MATERIAL.
4. THE INPLACE VEHICLE AND PEDESTRIAN INDICATIONS SHALL BE BAGGED AS DIRECTED BY THE ENGINEER.

SIGNAL SYSTEM "B"
STAGING PLAN

STAGE 1, PHASE 1 - FLASH MODE (BAG SIGNAL INDICATIONS AS DIRECTED BY THE ENGINEER)
STAGE 1, PHASE 2 - REMOVE AND SALVAGE INPLACE SIGNAL SYSTEM.

WORK TO BE DONE - APPLIES TO THIS PROJECT.

NB HANSON BLVD. (40 MPH)

SCALE IN FEET 0 20 40

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: | DESIGN BY:
CHKED. BY: | DWG. NAME: 042-TS25
DATE: 01/08/07

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BLVD. / HWY 10 SOUTH RAMP

SALVAGE SIGNAL SYSTEM "A"
INPLACE INTERSECTION LAYOUT
(SALVAGE SIGNAL SYSTEM NOTES)

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 506
20 OF 681

PLOT DATE: Jan 007 10:04am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\042-TS25.dwg

SIGNAL FACE CHART			
FACE	R	Y	G
1–1, 1–2, 1–3	←	←	←
2–1, 2–2, 2–3	●	●	●
3–1, 3–2, 3–3	●	→	→
4–1, 4–2, 4–3, 4–4	●	●	●
5–1, 5–2, 5–3	←	←	●
6–1, 6–2, 6–3	●	●	●
8–1, 8–2, 8–3, 8–4	●	●	●

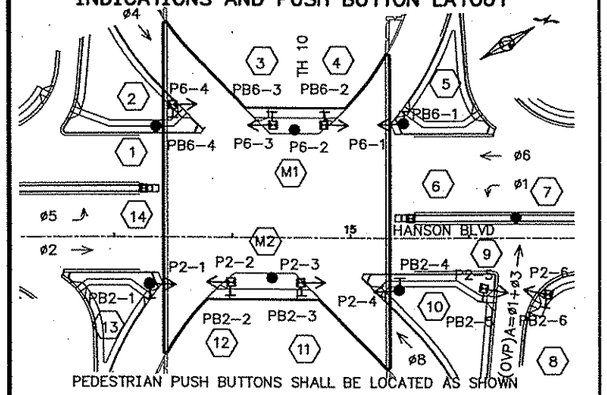
–ALL SIGNAL INDICATIONS SHALL BE 12"
–ALL SIGNAL INDICATIONS SHALL BE LED
–ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD

NMC LOOP DETECTORS			
INSTALLATION	NUMBER	SIZE (ft)	LOCATION
NMC – NEW BIT.	D1–1, D1–2	6' x 6'	40'
NMC – APPROACH PANEL	D1–3, D1–4	6' x 6'	10'
NMC – NEW BIT.	D2–1, D2–2, D2–3	6' x 6'	250'
NMC – NEW BIT.	D3–1, D3–2	2–6' x 6'	–5' & 10'
NMC – NEW BIT.	D4–1, D4–2	6' x 6'	120'
*NMC – BRIDGE DECK	D4–3, D4–4	2–6' x 6'	5' & 20'
NMC – NEW BIT.	D5–1, D5–2	6' x 6'	40'
NMC – APPROACH PANEL	D5–3, D5–4	6' x 6'	10'
NMC – NEW BIT.	D6–1, D6–2, D6–3	6' x 6'	250'
NMC – NEW BIT.	D8–1, D8–2	6' x 6'	120'
*NMC – BRIDGE DECK	D8–3	2–6' x 6'	0' & 15'
*NMC – BRIDGE DECK	D8–4	2–6' x 6'	5' & 20'

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR
ALL LOOP DETECTORS SHALL BE INSTALLED IN NMC, SEE DETAIL SHEET 488.
*PLACED BY OTHERS (SEE BRIDGE PLANS).

SYSTEM "B" – MATCH LINE B
SYSTEM "B" – MATCH LINE A
SYSTEM "B" – MATCH LINE C
SYSTEM "B" – MATCH LINE D
RAMP C2
RAMP A
RAMP D
RAMP B1
HANSON BLVD.
POSTED – 40 MPH
HANSON BLVD
HH 1
HH 2
HH 3
HH 5
HH 6
HH 7
HH 8
HH 10
HH 11
HH 12
HH 13
HH 15
HH 16
HH 18
HH 19
HH 20
HH 21
JB 1
JB 2
JB 3
JB 4
2" RSC 1–3/C #12
*2" NMC *1–6PR #19
2–4" RSC 8–12/C #12 10–3/C #12 2–3/C #20 13–2/C #14 *1–6PR #19
2" NMC 2–2/C #14
INPLACE: 4" RSC SUSPENDED UNDER BRIDGE (SEE BRIDGE PLAN) F & I: 5–12/C #12 5–3/C #12 2–3/C #20
INPLACE: 2–4" RSC SUSPENDED UNDER BRIDGE (SEE BRIDGE PLAN) F & I: 6–12/C #12 8–3/C #12 1–3/C #20 11–2/C #14 *1–6PR #19
2–4" RSC 8–12/C #12 12–3/C #12 2–3/C #20 11–2/C #14
4" RSC 5–12/C #12 7–3/C #12 2–3/C #20 2–2/C #14
2–4" RSC 6–12/C #12 8–3/C #12 1–3/C #20 11–2/C #14 *1–6PR #19
INPLACE: 4" RSC SUSPENDED UNDER BRIDGE (SEE BRIDGE PLAN) F & I: 5–12/C #12 7–3/C #12 2–3/C #20 2–2/C #14
4" RSC 3–12/C #12 5–3/C #12 9–2/C #14
3" RSC 2–12/C #12 5–3/C #12 5–2/C #14
2" NMC 3–2/C #14
3" RSC 3–2/C #14
3" RSC 1–12/C #12 3–3/C #12 2–2/C #14
INPLACE: 3" RSC SUSPENDED UNDER BRIDGE (SEE BRIDGE PLAN) F & I: 1–12/C #12 1–3/C #12 2–2/C #14
INPLACE: 3" RSC SUSPENDED UNDER BRIDGE (SEE BRIDGE PLAN) F & I: 1–12/C #12 3–3/C #12 2–2/C #14
3" RSC 1–12/C #12 3–3/C #12 2–2/C #14
2–4" RSC 6–12/C #12 8–3/C #12 1–3/C #20 11–2/C #14 *1–6PR #19
3" RSC 3–2/C #14 *1–6PR #19
2" NMC 3–2/C #14 *1–6PR #19
4" RSC 5–12/C #12 6–3/C #12 1–3/C #20 8–2/C #14
2" RSC 1–12/C #12
4" RSC 3–12/C #12 6–3/C #12 1–3/C #20 4–2/C #14
3" RSC 1–12/C #12 1–3/C #12
2" NMC 2–2/C #14
Ø1 & Ø6 EVP
Ø2 & Ø5 EVP
Ø4 EVP
Ø8 EVP
15
12'
D5–1 D5–2 D5–3 D5–4
D1–1 D1–2 D1–3 D1–4
D3–1 D3–2
D8–3 D8–4

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTON LAYOUT



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN

SIGNAL SYSTEM OPERATION

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 7 PHASE WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES.
- PHASE 3 SHALL BE A PROTECTED RIGHT TURN PHASE.
- OVERLAP (OVP)A = Ø1 + Ø3.
- PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

SYSTEM ID #: 38239
TE #: 3421
MASTER ID #: 20216
METER ADDRESS:

SCALE 40'

21 OF 32

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: JAS | DESIGN BY: MRA/YF
CHKED. BY: AJW/JFC | DWG. NAME: 042–TS05
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE
HANSON BLVD. / HWY 10
SIGNAL SYSTEM "B" INTERSECTION LAYOUT (1 OF 2)

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 507 / 681

PLOT DATE: Jan 07 10:05am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\(05.dwg

(1) ℄ N.B. HANSON BLVD. STA. 13+38, 100'LT.
PA85 POLE FOUNDATION
TYPE PA85-A-0-X30
LUMINAIRE ARM AT 0° (SEE SPECIAL PROVISIONS)
1 – TYPE 10A POLE MOUNTED AT 0°
1 – TYPE 20A POLE MOUNTED AT 270°
LUMINAIRE 250W HPS (SEE SPECIAL PROVISIONS)
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø4) MOUNTED TO LUMINAIRE EXTENSION
1 – R9-3A SIGN (NO PEDS) FACING POLE 11
1 – R6-1L SIGN (ONE WAY) POLE MOUNTED

3" RSC TO HH 3:
2–12/C #12
2–3/C #12
1–3/C #20

(2) ℄ N.B. HANSON BLVD. STA. 13+52, 107'LT.
PEDESTAL FOUNDATION (SEE NOTE 8)
8' SIGNAL PEDESTAL (INCLUDES BASE) ON BRIDGE DECK
1 – TYPE 4A
PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)

2" RSC TO JB 1:
(CONDUIT INSTALLED IN BRIDGE DECK STUB OUT – SEE BRIDGE PLAN)
2–3/C #12

(3) ℄ N.B. HANSON BLVD. STA. 14+30, 99'LT.
PEDESTAL FOUNDATION (SEE NOTE 8)
13' SIGNAL PEDESTAL (INCLUDE BASE) ON BRIDGE DECK
1 – TYPE 5B
1 – PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)

2" RSC TO JB 2:
(CONDUIT INSTALLED IN BRIDGE DECK STUBBED OUT – SEE BRIDGE PLAN)
1–12/C #12
1–3/C #12

(4) ℄ N.B. HANSON BLVD. STA. 14+77, 99'LT.
PEDESTAL FOUNDATION (SEE NOTE 8)
8' SIGNAL PEDESTAL (INCLUDES BASE) ON BRIDGE DECK
1 – TYPE 4A
1 – PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)

2" RSC TO JB 2:
(CONDUIT INSTALLED IN BRIDGE DECK STUBBED OUT – SEE BRIDGE PLAN)
2–3/C #12

(5) ℄ N.B. HANSON BLVD. STA. 15+41, 98'LT.
PA85 POLE FOUNDATION
TYPE PA85-A-0-X30
LUMINAIRE ARM AT 0° (SEE SPECIAL PROVISIONS)
1 – TYPE 10B POLE MOUNTED AT 90°
LUMINAIRE 250W HPS (SEE SPECIAL PROVISIONS)
1 – R9-3A SIGN (NO PEDS) FACING POLE NO. 6
1 – R6-1L SIGN (ONE WAY) POLE MOUNTED
1 – PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)

3" RSC TO HH 7:
1–12/C #12
2–3/C #12

(6) ℄ N.B. HANSON BLVD. STA. 15+45, 17'LT.
PEDESTAL FOUNDATION
13' SIGNAL PEDESTAL (INCLUDES BASE)
1 – TYPE 5A
2 – R9-3A SIGNS (NO PEDS) FACING POLE 5 & POLE 7

2" RSC TO HH 10:
1–12/C #12

(10) ℄ N.B. HANSON BLVD. STA. 15+38, 36'RT.
PA85 POLE FOUNDATION
TYPE PA85-A-0-X30
LUMINAIRE ARM AT 0° (SEE SPECIAL PROVISIONS)
1 – TYPE 10A POLE MOUNTED AT 0°
1 – TYPE 20B POLE MOUNTED AT 270°
LUMINAIRE 250W HPS (SEE SPECIAL PROVISIONS)
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø8) MOUNTED TO LUMINAIRE EXTENSION
1 – R9-3A SIGN (NO PEDS) FACING POLE 6
1 – R6-1L SIGN (ONE WAY) POLE MOUNTED
1 – PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)

3" RSC TO HH 11:
2–12/C #12
3–3/C #12
1–3/C #20

(11) ℄ N.B. HANSON BLVD. STA. 14+54, 41'RT.
PEDESTAL FOUNDATION (SEE NOTE 8)
13' SIGNAL PEDESTAL (INCLUDES BASE) ON BRIDGE DECK
1 – TYPE 5B
1 – PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)

2" RSC TO JB 3:
(CONDUIT INSTALLED IN BRIDGE DECK STUBBED OUT – SEE BRIDGE PLAN)
1–12/C #12
1–3/C #12

(12) ℄ N.B. HANSON BLVD. STA. 13+98, 41'RT.
PEDESTAL FOUNDATION (SEE NOTE 8)
8' SIGNAL PEDESTAL (INCLUDES BASE) ON BRIDGE DECK
1 – TYPE 4A
1 – PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)

2" RSC TO JB 4:
(CONDUIT INSTALLED IN BRIDGE DECK STUBBED OUT – SEE BRIDGE PLANS)
2–3/C #12

(13) ℄ N.B. HANSON BLVD. STA. 13+33, 43'RT.
PA85 POLE FOUNDATION
TYPE PA85-A-0-X30
LUMINAIRE ARM AT 0° (SEE SPECIAL PROVISIONS)
1 – TYPE 10B POLE MOUNTED AT 90°
LUMINAIRE 250W HPS (SEE SPECIAL PROVISIONS)
1 – R9-3A SIGN (NO PEDS) FACING POLE 11
1 – R6-1L SIGN (ONE WAY) POLE MOUNTED
1 – PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)

3" RSC TO HH 15:
1–12/C #12
2–3/C #12

(14) ℄ N.B. HANSON BLVD. STA. 13+30, 41'LT.
PEDESTAL FOUNDATION
13' SIGNAL PEDESTAL (INCLUDES BASE)
1 – TYPE 5A
2 – R9-3A SIGNS (NO PEDS) FACING POLE 1 & POLE 10

2" RSC TO HH 18:
1–12/C #12

(A) ℄ N.B. HANSON BLVD. STA. 12+40, 137'LT.
EQUIPMENT PAD (SEE SHEET 490)
CONTROLLER CABINET & MASTER CONTROLLER (FURNISHED BY MNDOT)
SERVICE CABINET (SEE SHEET 489)

CONTROLLER CABINET TO HH 1:

4" RSC	4" RSC
4–12/C #12	4–12/C #12
6–3/C #12	1–3/C #12
1–3/C #20	1–3/C #20
11–2/C #14	2–2/C #14
*1–6PR #19	

CONTROLLER CABINET TO HH 19:

4" RSC	4" RSC
3–12/C #12	5–12/C #12
5–3/C #12	6–3/C #12
9–2/C #14	2–3/C #20
*1–6PR #19	2–2/C #14

3" RSC STUBBED OUT (THREADED AND CAPPED BOTH ENDS)
2" RSC STUBBED OUT (THREADED AND CAPPED BOTH ENDS)
3/4" NMC STUBBED OUT (THREADED AND CAPPED BOTH ENDS) (FUTURE PHONE LINE)
2" RSC TO SERVICE CABINET:
2–1/C #6
1–1/C #6 INS. GR.
SERVICE CABINET TO HH 1:
2" RSC
4–3/C #12
SERVICE CABINET TO HH 20:
2" RSC
3–1/C #2 (SEE NOTE 14)

(7) ℄ N.B. HANSON BLVD. STA. 16+35, 16'RT.
PA85 POLE FOUNDATION
TYPE PA85-A-10
1 – ONE WAY SIGNAL OVERHEAD
1 – TYPE 10A POLE MOUNTED AT 270°
1 – R6-1R SIGN (ONE WAY) POLE MOUNTED

2" RSC TO HH 21:
1–12/C #12

(8) ℄ N.B. HANSON BLVD. STA. 16+67, 45'RT.
PEDESTAL FOUNDATION
13' SIGNAL PEDESTAL (INCLUDES BASE)
1 – TYPE 5B
1 – PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)

2" RSC TO HH 13:
1–12/C #12
1–3/C #12

(9) ℄ N.B. HANSON BLVD. STA. 16+17, 43'RT.
PEDESTAL FOUNDATION
8' SIGNAL PEDESTAL (INCLUDES BASE)
1 – TYPE 4A
1 – PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)

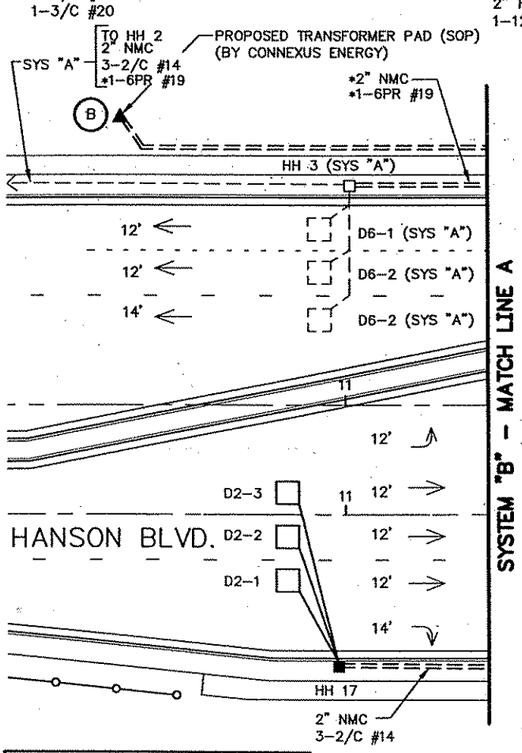
2" RSC TO HH 12:
2–3/C #12

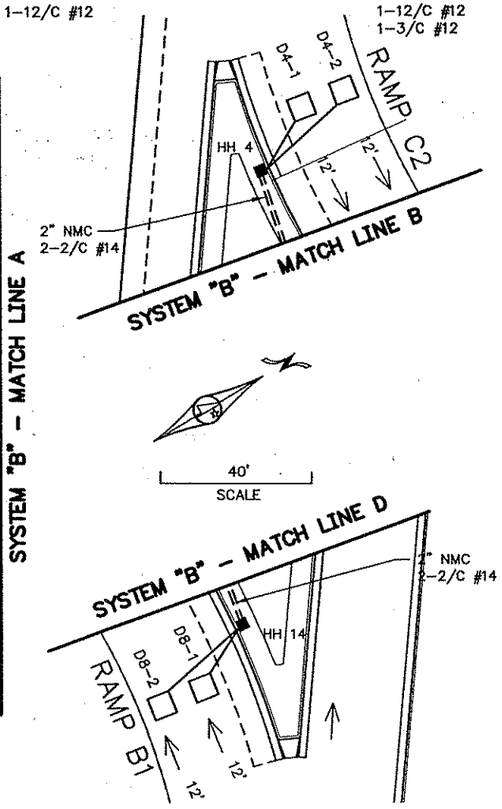
(M1) ℄ N.B. HANSON BLVD. STA. 14+37, 94'LT.
MONOTUBE STRUCTURE FOUNDATION (SEE NOTE 8)
(SEE DETAIL SHEETS 491 FOR PERFORMANCE SPECIFICATION & STRUCTURAL DETAILS)
8 – ONE WAY SIGNALS OVERHEAD AT LOCATIONS AS SHOWN ON INTERSECTION LAYOUT SHEET (MOUNTED AS SHOWN ON MONOTUBE STRUCTURE DETAIL)
2 – ONE WAY EVP DETECTORS AND CONFIRMATORY LIGHTS (ø1 & ø6) (ø2 & ø5) WITH EXTENSION
1 – R9-3A SIGN (NO PED) FACING POLE M2

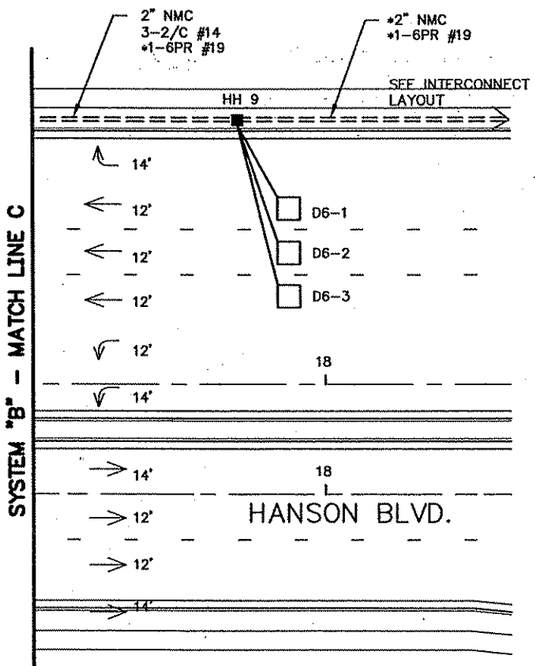
2–2" RSC TO JB 2:
4–12/C #12
2–3/C #12
2–3/C #20

(B) PROPOSED GROUND MOUNTED TRANSFORMER PAD (SOP)
(BY CONNEXUS ENERGY)
CONTACT PERSON: STEVE ZIMMERMAN

2" RSC TO HH 20:
3–1/C #2 (SEE NOTE 14)







(M2) ℄ N.B. HANSON BLVD. STA. 14+37, 36'RT.
MONOTUBE STRUCTURE FOUNDATION (SEE NOTE 8)
1 – R9-3A SIGN (NO PED) FACING POLE M1

SYSTEM ID #: 38239
TE #: 3421
MASTER ID #: 20216
METER ADDRESS:

NOTES:
1. SEE SPECIAL PROVISIONS FOR MN/DOT FURNISHED MATERIALS.
2. ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
3. THE EXACT LOCATION OF HANDHOLES, DETECTORS AND EQUIPMENT PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. MN/DOT TRAFFIC OFFICE PERSONNEL SHALL REVIEW LOCATIONS PRIOR TO INSTALLATION.
4. PEDESTRIAN INDICATIONS SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
5. HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS, PER MN/DOT STANDARD PLATE NO. 8114.
6. A 3/4" HALF-COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE PLACED AT LOCATIONS ON THE MONOTUBE SIGNAL BRIDGE AS SHOWN IN DETAIL SHEET 491.
7. ITEMS DENOTED WITH SYS "A" ARE PART OF SIGNAL SYSTEM "A" AND ARE INDICATED ON THIS SHEET FOR INFORMATION ONLY.
8. PEDESTAL POLE AND MONOTUBE POLE FOUNDATIONS (POLES 2, 3, 4, 11, 12, M1 & M2) SHALL BE INSTALLED AS AN INTEGRAL UNIT WITH THE BRIDGE DECK. SEE BRIDGE PLANS FOR PEDESTAL POLE FOUNDATION/SLAB ANCHORAGE DETAIL. THE ANCHOR RODS AND INSTALLATION WILL BE PAID FOR UNDER THE BRIDGE PAY ITEMS. PEDESTAL POLE FOUNDATIONS (POLES 6, 8, 9, 14) SHALL BE IN ACCORDANCE WITH MNDOT STANDARD PLATE 8112 AND PAID FOR UNDER THE SIGNAL SYSTEM B PAY ITEM.
9. THE SIGNAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE NMC LOOP DETECTORS TO BE INSTALLED WITHIN THE BRIDGE DECK OR APPROACH PANELS WITH THE BRIDGE CONTRACTOR. SEE SHEET 509 FOR INSTALLATION DETAIL.
10. SEE SHEET 509 FOR CONDUIT ANDNMC DETECTOR LAYOUT DETAILS WITHIN THE BRIDGE GIRDERS AND BRIDGE DECK. THE BRIDGE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING THE NMC LOOP DETECTORS IN THE BRIDGE . FURNISHING AND INSTALLING THE CONDUITS WITHIN THE BRIDGE DECK, CONDUITS INDICATED AS SUSPENDED FROM BRIDGE AND JUNCTION BOXES WILL BE FURNISHED, INSTALLED AND PAID FOR UNDER THE BRIDGE CONTRACT. SEE BRIDGE PLANS.
11. BRIDGE CONDUIT SUPPORTS AND HANGERS WILL BE FURNISHED AND INSTALLED UNDER THE BRIDGE CONTRACT. REFER TO BRIDGE PLANS FOR DETAILS.
12. SIGNAL EQUIPMENT SHALL BE PAINTED DARK BROWN. SEE SPECIAL PROVISIONS. THE CONTROLLER CABINET AND SERVICE CABINET SHALL NOT BE PAINTED.
13. ITEMS DENOTED WITH AN * ARE INCIDENTAL.
14. POWER CONDUCTOR SIZE MAY NEED TO BE INCREASED IF THE SOP TRANSFORMER PAD IS FIELD LOCATED FURTHER SOUTH THEN SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY WITH CONNEXUS ENERGY THE APPROPRIATE SIZE WIRES IN ACCORDANCE WITH NEC STANDARDS.
15. PEDESTAL POLE AND BASE SHALL BE IN ACCORDANCE WITH MNDOT STANDARD PLATE 8122.
16. RIGHT OF WAY LIMITS ARE OUTSIDE OF SHEET BORDER.
17. ALL TYPE C & TYPE D SIGNS MOUNTED ON THE MONOTUBE AND SIGNAL POLES SHALL BE INCIDENTAL.
18. LUMINAIRES ARE UNMETERED.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: JAS | DESIGN BY: MRA/YF
CHKED. BY: AJW/JFC | DWG. NAME: 042–TS17
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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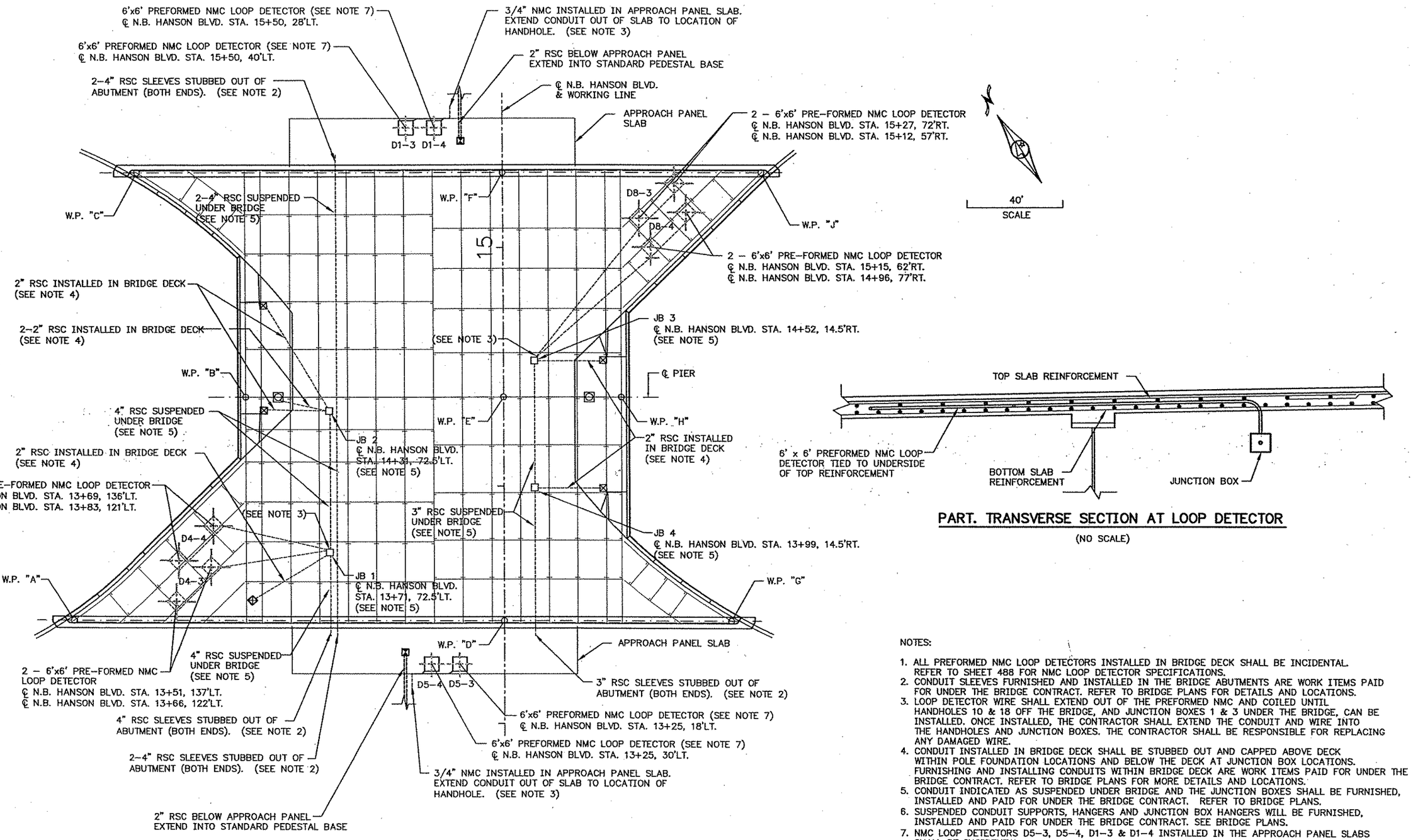
JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE
HANSON BLVD. / HWY 10
SIGNAL SYSTEM "B"
INTERSECTION LAYOUT
(2 OF2)

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 508 / 681

PLOT DATE: Jan 07 10:06am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\



PART. TRANSVERSE SECTION AT LOOP DETECTOR

(NO SCALE)

NOTES:

1. ALL PREFORMED NMC LOOP DETECTORS INSTALLED IN BRIDGE DECK SHALL BE INCIDENTAL. REFER TO SHEET 488 FOR NMC LOOP DETECTOR SPECIFICATIONS.
2. CONDUIT SLEEVES FURNISHED AND INSTALLED IN THE BRIDGE ABUTMENTS ARE WORK ITEMS PAID FOR UNDER THE BRIDGE CONTRACT. REFER TO BRIDGE PLANS FOR DETAILS AND LOCATIONS.
3. LOOP DETECTOR WIRE SHALL EXTEND OUT OF THE PREFORMED NMC AND COILED UNTIL HANDHOLES 10 & 18 OFF THE BRIDGE, AND JUNCTION BOXES 1 & 3 UNDER THE BRIDGE, CAN BE INSTALLED. ONCE INSTALLED, THE CONTRACTOR SHALL EXTEND THE CONDUIT AND WIRE INTO THE HANDHOLES AND JUNCTION BOXES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED WIRE.
4. CONDUIT INSTALLED IN BRIDGE DECK SHALL BE STUBBED OUT AND CAPPED ABOVE DECK WITHIN POLE FOUNDATION LOCATIONS AND BELOW THE DECK AT JUNCTION BOX LOCATIONS. FURNISHING AND INSTALLING CONDUITS WITHIN BRIDGE DECK ARE WORK ITEMS PAID FOR UNDER THE BRIDGE CONTRACT. REFER TO BRIDGE PLANS FOR MORE DETAILS AND LOCATIONS.
5. CONDUIT INDICATED AS SUSPENDED UNDER BRIDGE AND THE JUNCTION BOXES SHALL BE FURNISHED, INSTALLED AND PAID FOR UNDER THE BRIDGE CONTRACT. REFER TO BRIDGE PLANS.
6. SUSPENDED CONDUIT SUPPORTS, HANGERS AND JUNCTION BOX HANGERS WILL BE FURNISHED, INSTALLED AND PAID FOR UNDER THE BRIDGE CONTRACT. SEE BRIDGE PLANS.
7. NMC LOOP DETECTORS D5–3, D5–4, D1–3 & D1–4 INSTALLED IN THE APPROACH PANEL SLABS SHALL BE INCIDENTAL.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
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URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BLVD. / HWY 10

SIGNAL SYSTEM "B"
TRAFFIC CONTROL SIGNAL SYSTEM
CONDUIT SYSTEM DETAILS

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 509 / 681

PLOT DATE: Jan 07 10:07am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\TS27.dwg

SYSTEM ID #: 38239
TE #: 3421
MASTER ID #: 20216
METER ADDRESS:

INTERCONNECT TO SIGNAL SYSTEM "A" HANSON BLVD. / ROBINSON DR. *90

HH 3 (SYS "A")
D6-1 (SYS "A") D6-2 (SYS "A") D6-3 (SYS "A")

TO HH 1 (SEE SHEET 511) 39-68, *91

FROM HH 1 (SEE SHEET 511)

*90 6

HH 19

JB 2 7-9,14,24-27 7-10, 14-17, 24-27

JB 1 7-10, 14-19, 24-29

HH 6 6-38

HH 5 6-38

7-38, *90

P6-3 10 10,15
P6-4 18 18,19
PB6-3 15
PB6-4 19
P6-2 16 16,17
PB6-2 17

M1

4-2 3 4 4-3 6-1

ø1 & ø6 EVP LIGHT 26 EVP HUB 9
ø1 & ø6 EVP DETECTOR 27 EVP HUB
ø2 & ø5 EVP LIGHT 24 EVP HUB 8
ø2 & ø5 EVP DETECTOR 25 EVP HUB 14 7

M2

1-2 6-2 8-3 2-1 5-2 2-2

8-2 P2-3 11
PB2-3 20 11,20
JB 3 30 31
D8-3 D8-4

11

12 P2-2 21 PB2-2 22 21,22
JB 4 11, 20-22, 30, 31

13 1-3 P2-1 12 23 PB2-1
LUMINAIRE 6 4 6,12,23
HH 15 6, 11, 12, 20-23, 30-34

14 5-1 13 6, 11-13, 20-23, 30-38
HH 18 35 36 37 38
D5-1 D5-2 D5-3 D5-4

32-34 11, 20, 30, 31

HH 16
32-34
HH 17 32 33 34
D2-1 D2-2 D2-3

HH 20 SOP 1 1
GR. RD.

TO HH 1 (SEE SHEET 511) 3-6

SERVICE CABINET
LUMINAIRE 6 (UNMETERED) 4
LUMINAIRE 5 (UNMETERED) 3
LUMINAIRE 4 (UNMETERED) 2
LUMINAIRE 3 (UNMETERED) 1
SIGNAL SERVICE (METERED) 2-1/C#6 2
1 3-1/C#2 INPUT POWER
GR. RD.

2 2 2-1/C#6 SIGNAL SERVICE

3-2 RED YRTA GRTA NEU
3-3 RED YRTA GRTA NEU SPR SPR SPR EQ.G 62
P2-5 WLK NEU DWK 63
3-1 RED YRTA GRTA NEU
P2-6 WLK DWK SPR NEU SPR SPR SPR EQ.G 64
PB2-5 NEU SPR 65
PB2-6 NEU SPR 66
D3-1 67
D3-2 68

7 5-2 RLTA YLTA GLTA NEU SPR SPR SPR NEU RED YEL GRN EQ.G
8 6-2 RED YEL GRN NEU
1-2 RLTA YLTA GLTA NEU SPR SPR SPR EQ.G
9 6-1 RED YEL GRN NEU SPR SPR SPR NEU RED YEL GRN EQ.G
4-3 RED YEL GRN NEU SPR SPR SPR NEU RED YEL GRN EQ.G
10 4-2 RED YEL GRN NEU SPR WLK DWK NEU SPR SPR SPR EQ.G
P6-3 WLK DWK NEU SPR SPR SPR EQ.G
11 8-2 RED YEL GRN NEU SPR WLK DWK NEU SPR SPR SPR EQ.G
P2-3 WLK DWK NEU SPR SPR SPR EQ.G
1-3 RLTA YLTA GLTA NEU SPR WLK DWK NEU SPR SPR SPR EQ.G
12 P2-1 WLK DWK NEU SPR SPR SPR EQ.G

*90 INTERCONNECT TO SIGNAL SYSTEM "A" HANSON BLVD. / ROBINSON DR. *1-6PR#19

CONTROLLER CABINET

13 5-1 RLTA YLTA GLTA NEU SPR SPR SPR SPR NEU SPR SPR SPR SPR EQ.G
14 2-1 RED YEL GRN NEU SPR SPR SPR SPR NEU RED YEL GRN EQ.G
8-3 PB6-3 NEU SPR 15
P6-2 WLK NEU DWK 16
PB6-2 NEU SPR 17
P6-4 WLK NEU DWK 18
PB6-4 NEU SPR 19
PB2-3 NEU SPR 20
P2-2 WLK NEU DWK 21
PB2-2 NEU SPR 22
PB2-1 NEU SPR 23
EVP LIGHT ø2&ø5 NEU SPR 24
ø2 & ø5 EVP DETECTOR 25
EVP LIGHT ø1&ø6 NEU SPR 26
ø1 & ø6 EVP DETECTOR 27
D4-3 28
D4-4 29
D8-3 30
D8-4 31
D2-1 32

D2-2 33
D2-3 34
D5-1 35
D5-2 36
D5-3 37
D5-4 38
PB2-4 NEU SPR 46
EVP LIGHT ø8 NEU SPR 47
ø8 EVP DETECTOR 48
EVP LIGHT ø4 NEU SPR 49
ø4 EVP DETECTOR 50
D8-1 51
D8-2 52
D1-1 53
D1-2 54
D1-3 55
D1-4 56
D6-1 57
D6-2 58
D6-3 59
D4-1 60
D4-2 61

8-1 RED YEL GRN NEU
4-4 RED YEL GRN NEU SPR SPR SPR EQ.G 39
2-3 RED YEL GRN NEU SPR
P2-4 WLK DWK NEU SPR SPR SPR SPR EQ.G 40
1-1 RLTA YLTA GLTA NEU SPR SPR SPR SPR NEU SPR SPR SPR EQ.G 41
5-3 RLTA YLTA GLTA NEU SPR
P6-1 WLK DWK NEU SPR SPR SPR EQ.G 42
4-1 RED YEL GRN NEU
8-4 RED YEL GRN NEU WLK DWK SPR EQ.G 43
6-3 RED YEL GRN NEU SPR SPR SPR SPR NEU SPR SPR SPR EQ.G 44
PB6-1 NEU SPR 45

INTERCONNECT TO SIGNAL SYSTEM "C" HANSON BLVD. / NORTHDALE BLVD. *1-6PR#19 *91

MASTER CONTROLLER

* DENOTES INTERCONNECT PAY ITEM.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BLVD. / HWY 10

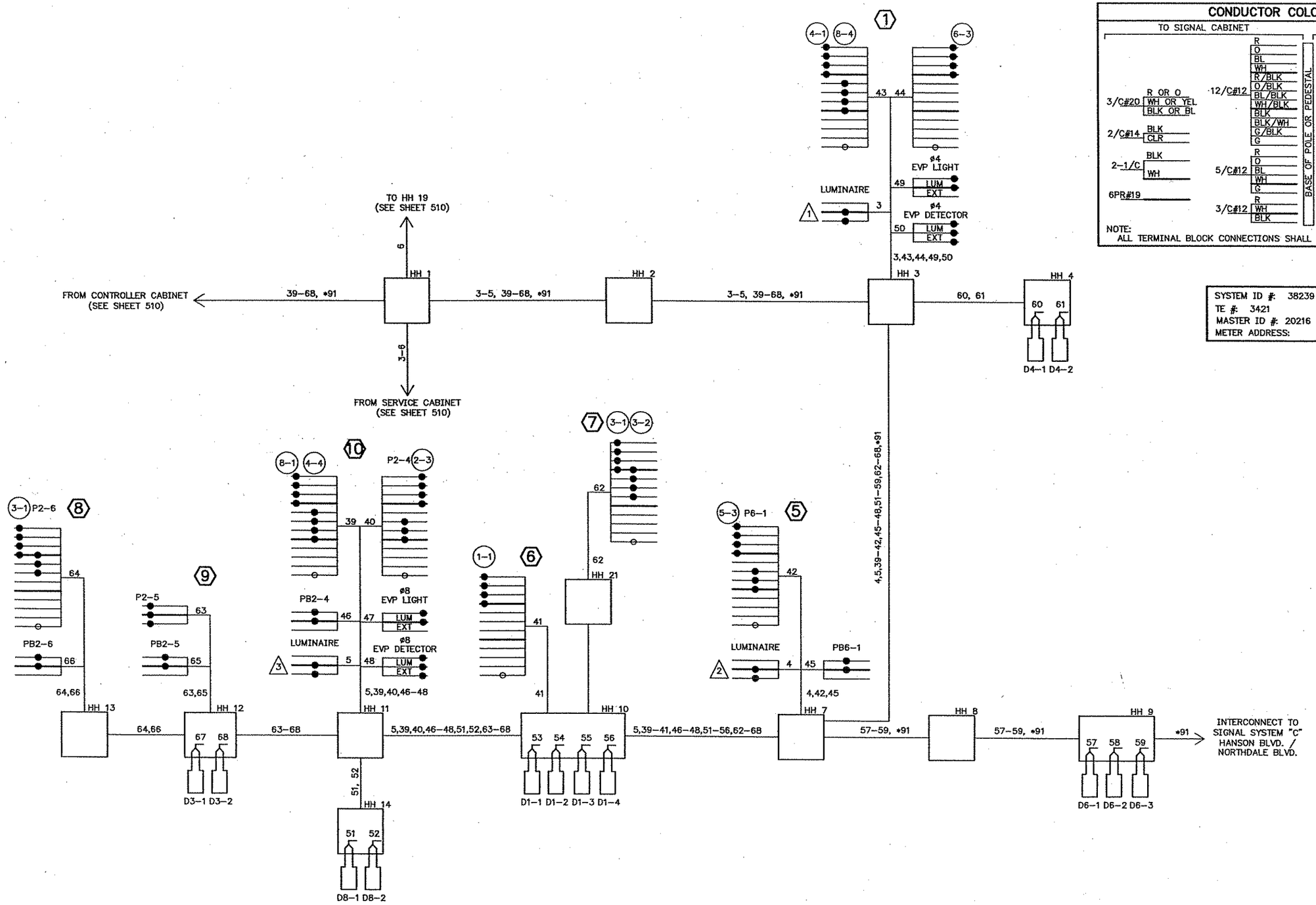
SIGNAL SYSTEM "B"
FIELD WIRING DIAGRAM
(1 OF 2)

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 510 / 681

24 OF

PLOT DATE: Jan 2007 10:07am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\C



* DENOTES INTERCONNECT PAY ITEM.

25 OF 32

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
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URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

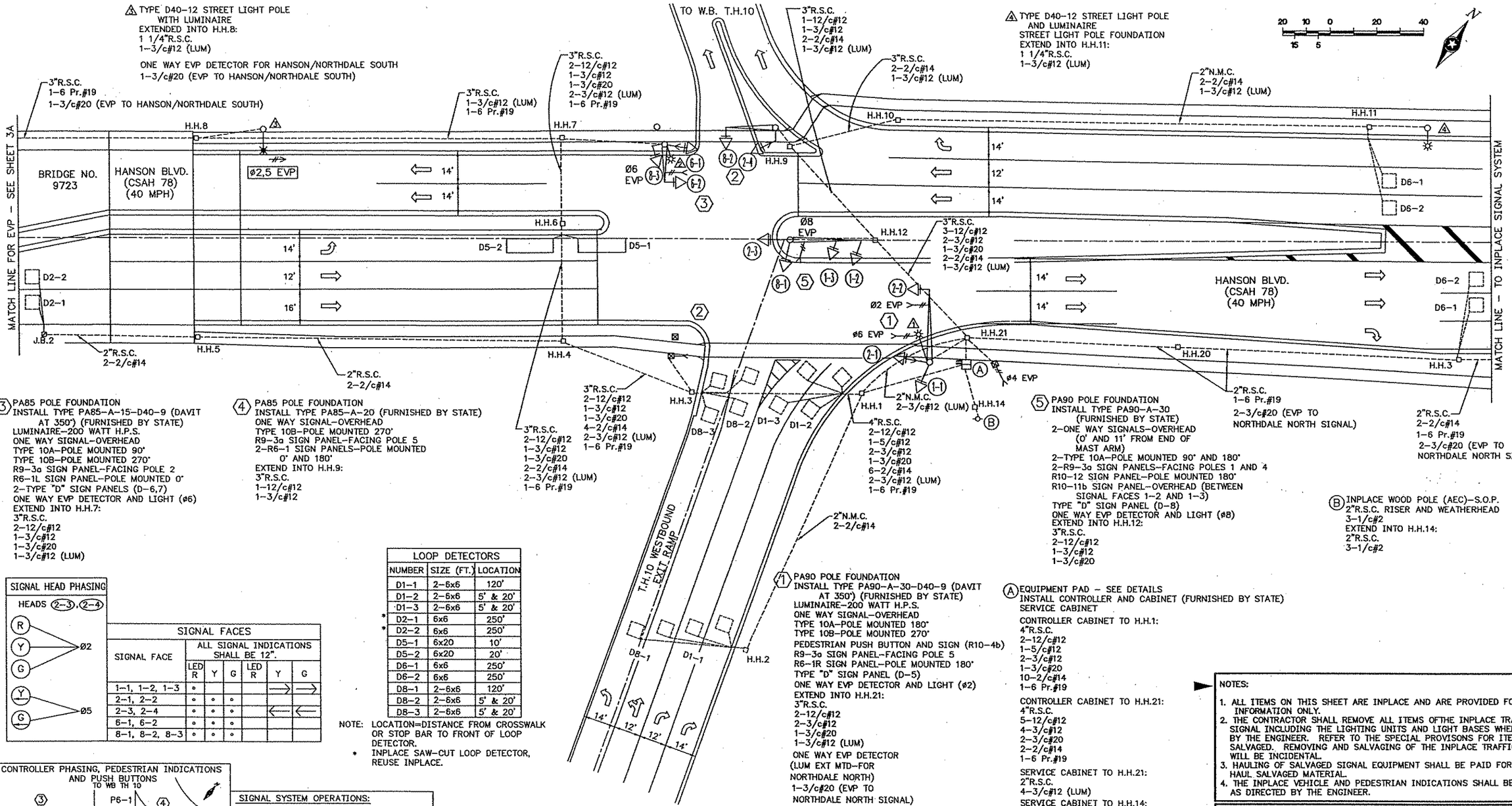
HANSON BLVD. / HWY 10

SIGNAL SYSTEM "B"
FIELD WIRING DIAGRAM
(2 OF 2)

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 511 / 681

PLOT DATE: Jan 27 10:08am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\TS28.dwg



(3) PA85 POLE FOUNDATION
INSTALL TYPE PA85-A-15-D40-9 (DAVIT AT 350°) (FURNISHED BY STATE)
LUMINAIRE-200 WATT H.P.S.
ONE WAY SIGNAL-OVERHEAD
TYPE 10A-POLE MOUNTED 90°
TYPE 10B-POLE MOUNTED 270°
R9-3a SIGN PANEL-FACING POLE 2
R6-1L SIGN PANEL-POLE MOUNTED 0°
2-TYPE "D" SIGN PANELS (D-6,7)
ONE WAY EVP DETECTOR AND LIGHT (ø6)
EXTEND INTO H.H.7:
3"R.S.C.
2-12/c#12
1-3/c#12
1-3/c#20
1-3/c#12 (LUM)

(4) PA85 POLE FOUNDATION
INSTALL TYPE PA85-A-20 (FURNISHED BY STATE)
ONE WAY SIGNAL-OVERHEAD
TYPE 10B-POLE MOUNTED 270°
R9-3a SIGN PANEL-FACING POLE 5
2-R6-1 SIGN PANELS-POLE MOUNTED 0° AND 180°
EXTEND INTO H.H.9:
3"R.S.C.
1-12/c#12
1-3/c#12

(5) PA90 POLE FOUNDATION
INSTALL TYPE PA90-A-30 (FURNISHED BY STATE)
2-ONE WAY SIGNALS-OVERHEAD (0' AND 11' FROM END OF MAST ARM)
2-TYPE 10A-POLE MOUNTED 90° AND 180°
2-R9-3a SIGN PANELS-FACING POLES 1 AND 4
R10-12 SIGN PANEL-POLE MOUNTED 180°
R10-11b SIGN PANEL-OVERHEAD (BETWEEN SIGNAL FACES 1-2 AND 1-3)
TYPE "D" SIGN PANEL (D-8)
ONE WAY EVP DETECTOR AND LIGHT (ø8)
EXTEND INTO H.H.12:
3"R.S.C.
2-12/c#12
1-3/c#12
1-3/c#20

(B) INPLACE WOOD POLE (AEC)-S.O.P.
2"R.S.C. RISER AND WEATHERHEAD
3-1/c#2
EXTEND INTO H.H.14:
2"R.S.C.
3-1/c#2

(1) PA90 POLE FOUNDATION
INSTALL TYPE PA90-A-30-D40-9 (DAVIT AT 350°) (FURNISHED BY STATE)
LUMINAIRE-200 WATT H.P.S.
ONE WAY SIGNAL-OVERHEAD
TYPE 10A-POLE MOUNTED 180°
TYPE 10B-POLE MOUNTED 270°
PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)
R9-3a SIGN PANEL-FACING POLE 5
R6-1R SIGN PANEL-POLE MOUNTED 180°
TYPE "D" SIGN PANEL (D-5)
ONE WAY EVP DETECTOR AND LIGHT (ø2)
EXTEND INTO H.H.21:
3"R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
1-3/c#12 (LUM)
ONE WAY EVP DETECTOR (LUM EXT MTD-FOR NORTHDALE NORTH)
1-3/c#20 (EVP TO NORTHDALE NORTH SIGNAL)

(2) PEDESTAL FOUNDATION
INSTALL 8' PEDESTAL POLE AND BASE (FURNISHED BY STATE)
TYPE 4A
PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)
R9-3a SIGN PANEL-FACING POLE 3
EXTEND INTO H.H.3:
3"R.S.C.
1-5/c#12
1-3/c#12

(A) EQUIPMENT PAD - SEE DETAILS
INSTALL CONTROLLER AND CABINET (FURNISHED BY STATE)
SERVICE CABINET
CONTROLLER CABINET TO H.H.1:
4"R.S.C.
2-12/c#12
1-5/c#12
2-3/c#12
1-3/c#20
10-2/c#14
1-6 Pr.#19
CONTROLLER CABINET TO H.H.21:
4"R.S.C.
5-12/c#12
4-3/c#12
2-3/c#20
2-2/c#14
1-6 Pr.#19
SERVICE CABINET TO H.H.21:
2"R.S.C.
4-3/c#12 (LUM)
SERVICE CABINET TO H.H.14:
2"R.S.C.
3-1/c#2
BETWEEN SERVICE CABINET AND CONTROLLER CABINET:
2"R.S.C.
2-1/c#6
1-1/c#6 Br.Gr.
STUB OUT 1-2"R.S.C. AND 1-3"R.S.C. FROM CONTROLLER CABINET TO SOUTH (THREAD AND CAP BOTH ENDS-FOR FUTURE USE)

SIGNAL HEAD PHASING
HEADS (2-3), (2-4)

SIGNAL FACES

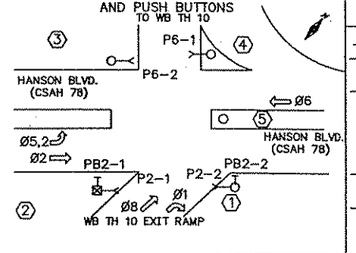
SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12".					
	LED R	Y	G	LED R	Y	G
1-1, 1-2, 1-3	○				→	→
2-1, 2-2	○	○	○			
2-3, 2-4	○	○	○		←	←
6-1, 6-2	○	○	○			
8-1, 8-2, 8-3	○	○	○			

LOOP DETECTORS

NUMBER	SIZE (FT.)	LOCATION
D1-1	2-6x6	120'
D1-2	2-6x6	5' & 20'
D1-3	2-6x6	5' & 20'
* D2-1	6x6	250'
* D2-2	6x6	250'
D5-1	6x20	10'
D5-2	6x20	20'
D6-1	6x6	250'
D6-2	6x6	250'
D8-1	2-6x6	120'
D8-2	2-6x6	5' & 20'
D8-3	2-6x6	5' & 20'

NOTE: LOCATION=DISTANCE FROM CROSSWALK OR STOP BAR TO FRONT OF LOOP DETECTOR.
* INPLACE SAW-CUT LOOP DETECTOR, REUSE INPLACE.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATIONS:
-SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
-NORMAL OPERATION SHALL BE 4 PHASE, WITH PHASE 5 BEING A PERMISSIVE/ PROTECTED LEFT TURN PHASE, AND PHASE 1 BEING AN OVERLAP PHASE WITH PHASE 6 THROUGH TRAFFIC.
-PHASE 2 SHALL OPERATE ON VEHICLE RECALL.
-PHASE 6 SHALL OPERATE ON PEDESTRIAN RECALL.

SYSTEM I.D. 20217

NOTES:
1. ALL ITEMS ON THIS SHEET ARE INPLACE AND ARE PROVIDED FOR INFORMATION ONLY.
2. THE CONTRACTOR SHALL REMOVE ALL ITEMS OFTHE INPLACE TRAFFIC SIGNAL INCLUDING THE LIGHTING UNITS AND LIGHT BASES WHEN DIRECTED BY THE ENGINEER. REFER TO THE SPECIAL PROVISONS FOR ITEMS TO BE SALVAGED. REMOVING AND SALVAGING OF THE INPLACE TRAFFIC SIGNAL WILL BE INCIDENTAL.
3. HAULING OF SALVAGED SIGNAL EQUIPMENT SHALL BE PAID FOR AS HAUL SALVAGED MATERIAL.
4. THE INPLACE VEHICLE AND PEDESTRIAN INDICATIONS SHALL BE BAGGED AS DIRECTED BY THE ENGINEER.

SIGNAL SYSTEM "D"
STAGING PLAN

STAGE 1, PHASE 1 - FLASH MODE (BAG SIGNAL INDICATIONS AS DIRECTED BY THE ENGINEER)
STAGE 1, PHASE 2 - FLASH MODE (BAG SIGNAL INDICATIONS AS DIRECTED BY THE ENGINEER)
STAGE 1, PHASE 2A - FLASH MODE (BAG SIGNAL INDICATIONS AS DIRECTED BY THE ENGINEER)
STAGE 2, PHASE 1 - REMOVE AND SALVAGE SIGNAL SYSTEM

WORK TO BE DONE - APPLIES TO THIS PROJECT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS | DESIGN BY: MRA
CHKED. BY: AJW | DWG. NAME: 042-TS08
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE
HANSON BLVD. / HWY 10 NORTH RAMP
SALVAGE SIGNAL SYSTEM "B"
INPLACE INTERSECTION LAYOUT
(SALVAGE SIGNAL SYSTEM NOTES)

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 512 / 681
26 OF

PLOT DATE: Jan 2007 10:08am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\0...dwg

SIGNAL FACES

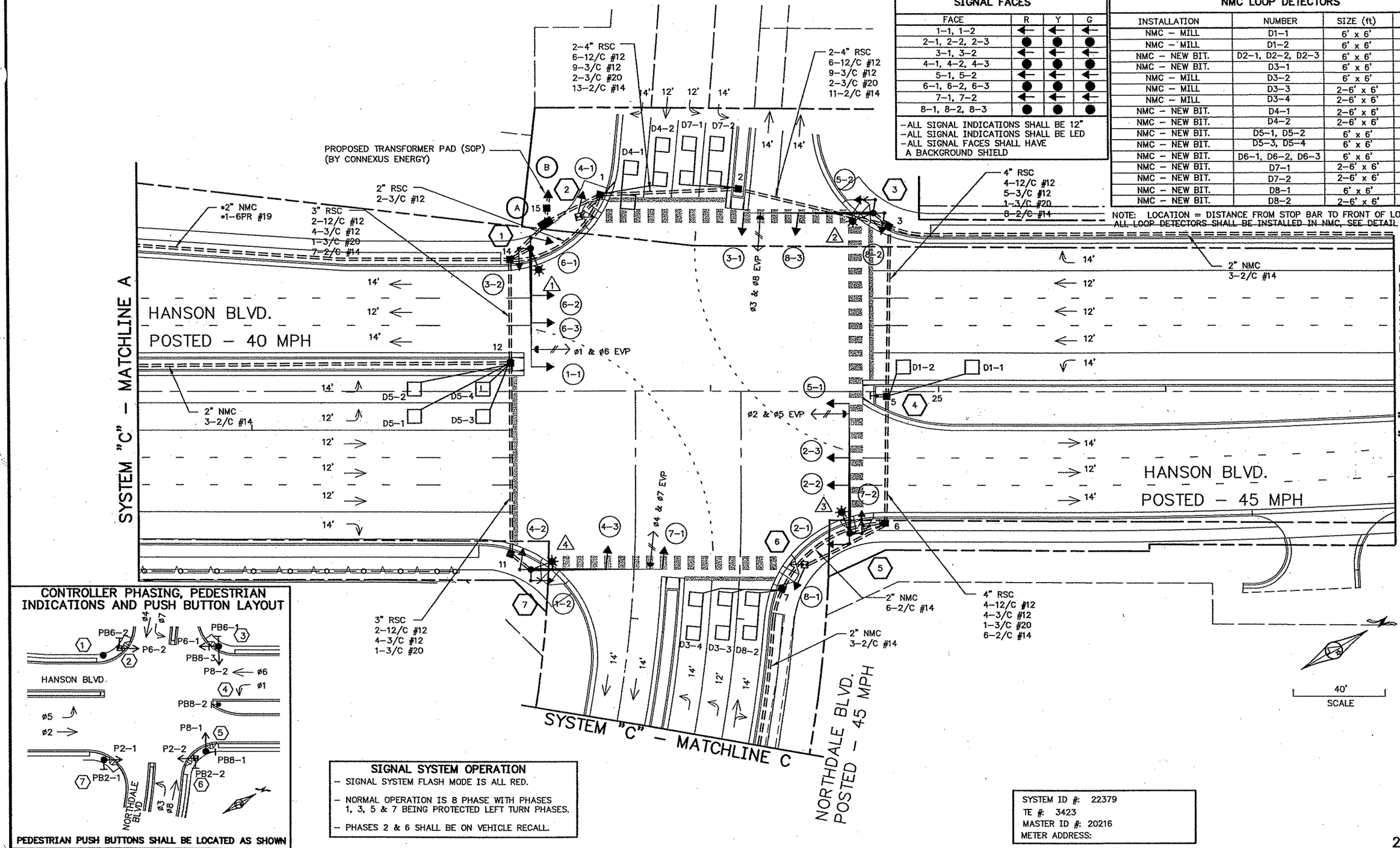
FACE	R	Y	G
1–1, 1–2	←	←	←
2–1, 2–2, 2–3	●	●	●
3–1, 3–2	←	←	←
4–1, 4–2, 4–3	●	●	●
5–1, 5–2	←	←	←
6–1, 6–2, 6–3	●	●	●
7–1, 7–2	←	←	←
8–1, 8–2, 8–3	●	●	●

–ALL SIGNAL INDICATIONS SHALL BE 12"
–ALL SIGNAL INDICATIONS SHALL BE LED
–ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD

NMC LOOP DETECTORS

INSTALLATION	NUMBER	SIZE (ft)	LOCATION
NMC – MILL	D1–1	6' x 6'	40'
NMC – MILL	D1–2	6' x 6'	10'
NMC – NEW BIT.	D2–1, D2–2, D2–3	6' x 6'	250'
NMC – NEW BIT.	D3–1	6' x 6'	250'
NMC – MILL	D3–2	6' x 6'	250'
NMC – MILL	D3–3	2–6' x 6'	5' & 20'
NMC – MILL	D3–4	2–6' x 6'	5' & 20'
NMC – NEW BIT.	D4–1	2–6' x 6'	–5' & 10'
NMC – NEW BIT.	D4–2	2–6' x 6'	5' & 20'
NMC – NEW BIT.	D5–1, D5–2	6' x 6'	40'
NMC – NEW BIT.	D5–3, D5–4	6' x 6'	10'
NMC – NEW BIT.	D6–1, D6–2, D6–3	6' x 6'	250'
NMC – NEW BIT.	D7–1	2–6' x 6'	5' & 20'
NMC – NEW BIT.	D7–2	2–6' x 6'	5' & 20'
NMC – NEW BIT.	D8–1	6' x 6'	250'
NMC – NEW BIT.	D8–2	2–6' x 6'	5' & 20'

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR
ALL LOOP DETECTORS SHALL BE INSTALLED IN NMC, SEE DETAIL SHEET 488



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTON LAYOUT

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN

SIGNAL SYSTEM OPERATION

– SIGNAL SYSTEM FLASH MODE IS ALL RED.

– NORMAL OPERATION IS 8 PHASE WITH PHASES 1, 3, 5 & 7 BEING PROTECTED LEFT TURN PHASES.

– PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

SYSTEM ID #: 22379
TE #: 3423
MASTER ID #: 20216
METER ADDRESS:

27 OF 32

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: JAS
DESIGN BY: MRA/YF
CHKED. BY: AJW/JFC
DWG. NAME: 042–TS07
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

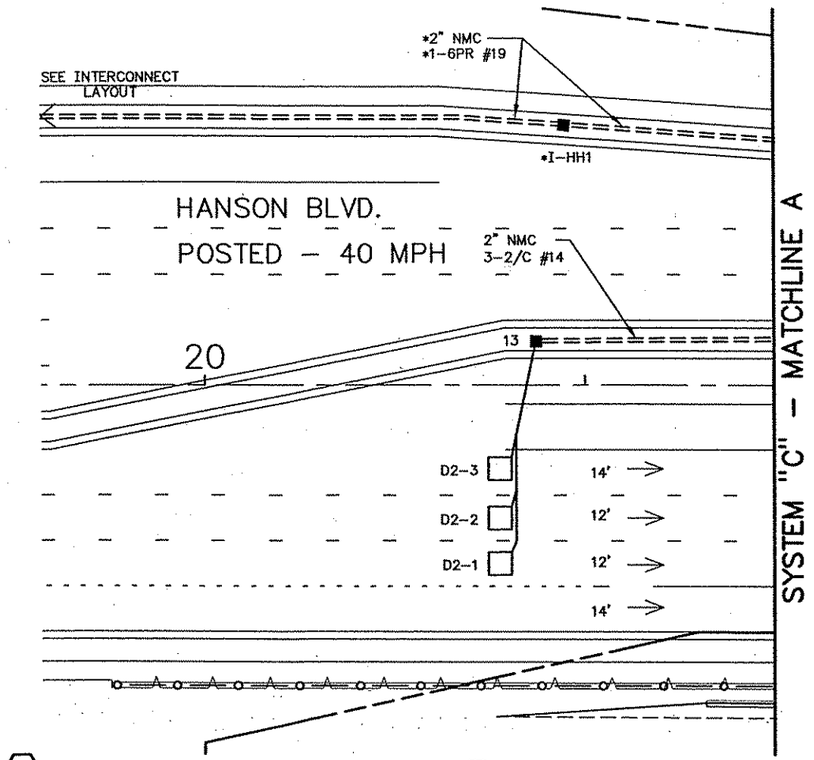
HANSON BLVD. / NORTHDALE BLVD.

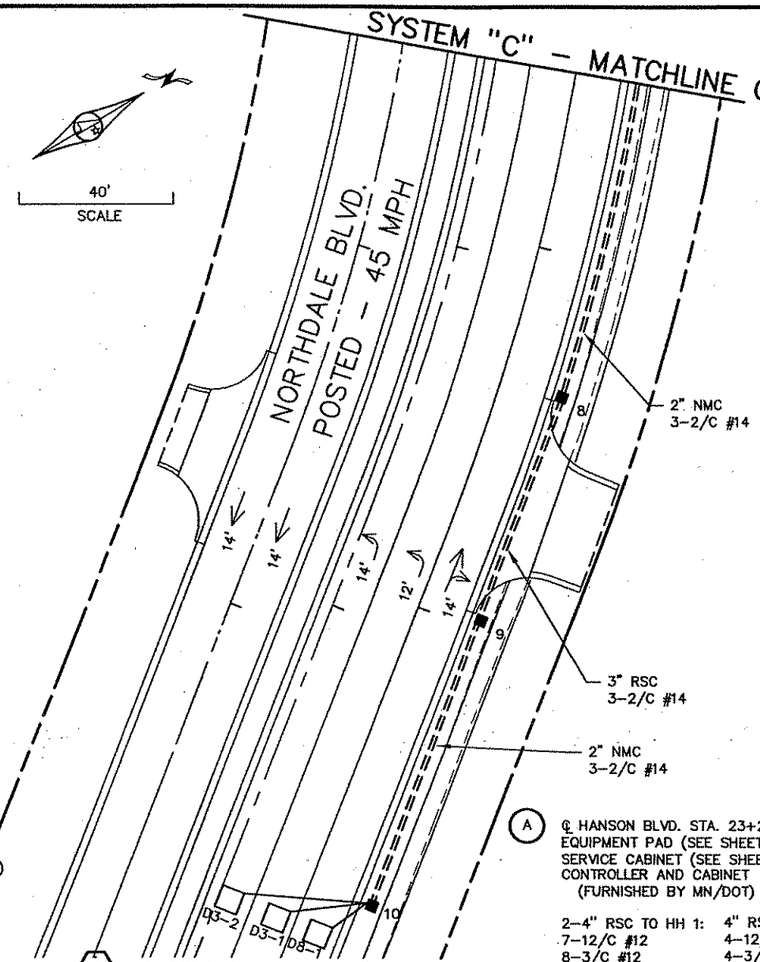
SIGNAL SYSTEM "C"
INTERSECTION LAYOUT
(1 OF 2)

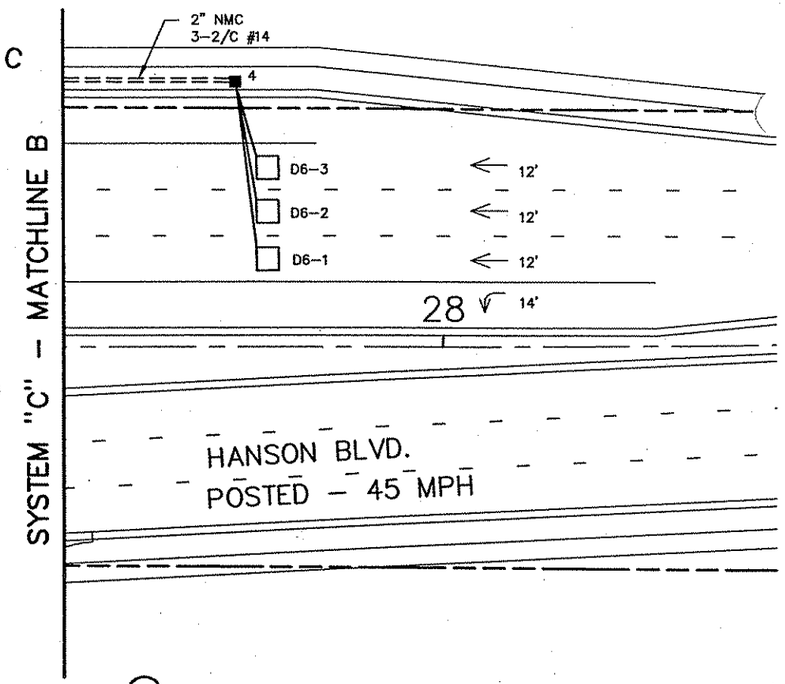
CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 513 / 681

PLOT DATE: Jan 07 10:09am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\C[illegible].dwg







(1) ℄ HANSON BLVD. STA. 23+23, 63' LT.
PA100 POLE FOUNDATION
TYPE PA100-A-50-X30
LUMINAIRE ARM AT 350° (SEE SPECIAL PROVISIONS)
3 - ONE WAY SIGNALS OVERHEAD (0', 20' & 31' FROM END OF MAST ARM)
2 - TYPE 10A POLE MOUNTED AT 90° & 180°
1 - ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1 & 6) (6' FROM END OF MAST ARM)
LUMINAIRE - 250W HPS (SEE SPECIAL PROVISIONS)
1 - R9-3a (NO PED) SIGN FACING POLE 7
1 - TYPE D SIGN (D-5) OVERHEAD SEE SHEET 494
2 - R6-1L OR R6-1R SIGN (ONE WAY) POLE MOUNTED

3" RSC TO HH 14:
2-12/C #12
2-3/C #12
1-3/C #20

(2) ℄ HANSON BLVD. STA. 23+44, 77' LT.
PEDESTAL POLE FOUNDATION
13' PEDESTAL POLE (INCLUDES BASE)
1 - TYPE 5B
1 - PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)

2" RSC TO HH 1:
1-12/C #12
1-3/C #12

(3) ℄ HANSON BLVD. STA. 24+74, 76' LT.
PA100 POLE FOUNDATION
TYPE PA100-A-55-X30
LUMINAIRE ARM AT 350° (SEE SPECIAL PROVISIONS)
2 - ONE WAY SIGNALS OVERHEAD (0' & 24' FROM END OF MAST ARM)
2 - TYPE 10B POLE MOUNTED AT 90° & 180°
1 - ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 3 & 8) (6' FROM END OF MAST ARM)
LUMINAIRE - 250W HPS (SEE SPECIAL PROVISIONS)
2 - PEDESTRIAN PUSHBUTTONS AND SIGNS (R10-4b)
1 - TYPE D SIGN (D-6) OVERHEAD SEE SHEET 494
2 - R6-1L OR R6-1R SIGN (ONE WAY) POLE MOUNTED

3" RSC TO HH 3:
2-12/C #12
4-3/C #12
1-3/C #20

(4) ℄ HANSON BLVD. STA. 24+77, 2' RT.
PEDESTRIAN PUSHBUTTON STATION FOUNDATION
PEDESTRIAN PUSHBUTTON STATION (MNDOT STD PLATE 8115)
1 - PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)

1 1/4" RSC TO HH 5:
1-3/C #12

(5) ℄ HANSON BLVD. STA. 24+61, 62'RT.
PA100 POLE FOUNDATION
TYPE PA100-A-55-X30
LUMINAIRE ARM AT 350° (SEE SPECIAL PROVISIONS)
3 - ONE WAY SIGNALS OVERHEAD (0', 23' & 35' FROM END OF MAST ARM)
1 - TYPE 10B POLE MOUNTED AT 90°
1 - TYPE 10A POLE MOUNTED AT 180°
1 - ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 2 & 5) (6' FROM END OF MAST ARM)
LUMINAIRE - 250W HPS (SEE SPECIAL PROVISIONS)
1 - PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)
1 - TYPE D SIGN (D-4) OVERHEAD SEE SHEET 494
2 - R6-1L OR R6-1R SIGN (ONE WAY) POLE MOUNTED

3" RSC TO HH 6:
3-12/C #12
3-3/C #12
1-3/C #20

(6) ℄ HANSON BLVD. STA. 24+41, 76' RT.
PEDESTAL POLE FOUNDATION
13' PEDESTAL POLE (INCLUDES BASE)
1 - TYPE 5B
1 - PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)

2" RSC TO HH 6:
1-12/C #12
1-3/C #12

(7) ℄ HANSON BLVD. STA. 23+22, 78' RT.
PA100 POLE FOUNDATION
TYPE PA100-A-55-X30
LUMINAIRE ARM AT 350° (SEE SPECIAL PROVISIONS)
2 - ONE WAY SIGNALS OVERHEAD (0' & 23' FROM END OF MAST ARM)
1 - TYPE 10B POLE MOUNTED AT 90°
1 - TYPE 10A POLE MOUNTED AT 180°
1 - ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 4 & 7) (6' FROM END OF MAST ARM)
LUMINAIRE - 250W HPS (SEE SPECIAL PROVISIONS)
1 - PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)
1 - TYPE D SIGN (D-6) OVERHEAD SEE SHEET 494
1 - TYPE R9-3a SIGN (NO PED) FACING POLE 1
2 - R6-1L OR R6-1R SIGN (ONE WAY) POLE MOUNTED

3" RSC TO HH 11:
2-12/C #12
4-3/C #12
1-3/C #20

(A) ℄ HANSON BLVD. STA. 23+28, 74' LT.
EQUIPMENT PAD (SEE SHEET 490)
SERVICE CABINET (SEE SHEET 489)
CONTROLLER AND CABINET (FURNISHED BY MN/DOT)

2-4" RSC TO HH 1:	4" RSC TO HH 14:
7-12/C #12	4-12/C #12
8-3/C #12	4-3/C #12
2-3/C #20	2-3/C #20
15-2/C #14	7-2/C #14
	*1-6PR #19

2" RSC TO SERVICE CABINET:
2-1/C #6
1-1/C #6 INS. GR.

SERVICE CABINET TO HH 1:
2" RSC
4-3/C #12

SERVICE CABINET TO HH 15:
2" RSC
3-1/C #2

3" RSC STUBBED OUT (THREADED AND CAPPED BOTH ENDS)
2" RSC STUBBED OUT (THREADED AND CAPPED BOTH ENDS)
3/4" NMC STUBBED OUT (THREADED AND CAPPED BOTH ENDS)
(FUTURE PHONE LINE)

(B) PROPOSED GROUND MOUNTED TRANSFORMER PAD (SOP)
(BY CONNEXUS ENERGY)
CONTACT PERSON: STEVE ZIMMERMAN

2" RSC TO HH 15:
3-1/C #2

NOTES:

1. SEE SPECIAL PROVISIONS FOR MN/DOT FURNISHED MATERIALS.
2. ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
3. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS AND EQUIPMENT RAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. MN/DOT TRAFFIC OFFICE PERSONNEL SHALL REVIEW LOCATIONS PRIOR TO INSTALLATION.
4. PEDESTRIAN INDICATIONS SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
5. HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS, PER MN/DOT STANDARD PLATE NO. 8114.
6. A 3/4" HALF-COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6' FROM THE END OF THE MAST ARM AT POLES 1, 3, 5 & 7.
7. PEDESTAL POLE FOUNDATIONS SHALL BE IN ACCORDANCE WITH MN/DOT STANDARD PLATE 8112.
8. PEDESTAL POLE AND BASE SHALL BE IN ACCORDANCE WITH MN/DOT STANDARD PLATE 8122.
9. FOR TYPE C & TYPE D SIGN DETAILS SEE SHEET 494. POLE AND MAST ARM MOUNTED TYPE C AND TYPE D SIGNS SHALL BE INCIDENTAL.
10. THE SIGNAL CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF THE TRAFFIC SIGNAL WITH CONSTRUCTION STAGING OF THE AREA ROADWAYS.
11. ALL ITEMS OF THE INPLACE TRAFFIC SIGNAL SHALL BE REMOVED WHEN DIRECTED BY THE ENGINEER. REFER TO THE SPECIAL PROVISIONS FOR ITEMS TO BE SALVAGED. REMOVAL AND SALVAGE OF THE EXISTING SIGNAL SYSTEM SHALL BE INCIDENTAL.
12. HAULING OF SALVAGED SIGNAL EQUIPMENT SHALL BE PAID FOR AS HAUL SALVAGED MATERIAL.
13. SIGNAL EQUIPMENT SHALL BE PAINTED DARK BROWN. SEE SPECIAL PROVISIONS. THE CONTROLLER CABINET AND SERVICE CABINET SHALL NOT BE PAINTED.
14. ITEMS DENOTED WITH AN * ARE INCIDENTAL.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING UTILITIES PRIOR TO COMMENCING WORK.
16. LUMINAIRES ARE UNMETERED.

SYSTEM ID #:	22379
TE #:	3423
MASTER ID #:	20216
METER ADDRESS:	

28 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS | DESIGN BY: MRA/YF
CHKD. BY: AJW/JFC | DWG. NAME: 042-TS12
DATE: 01/08/07

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE

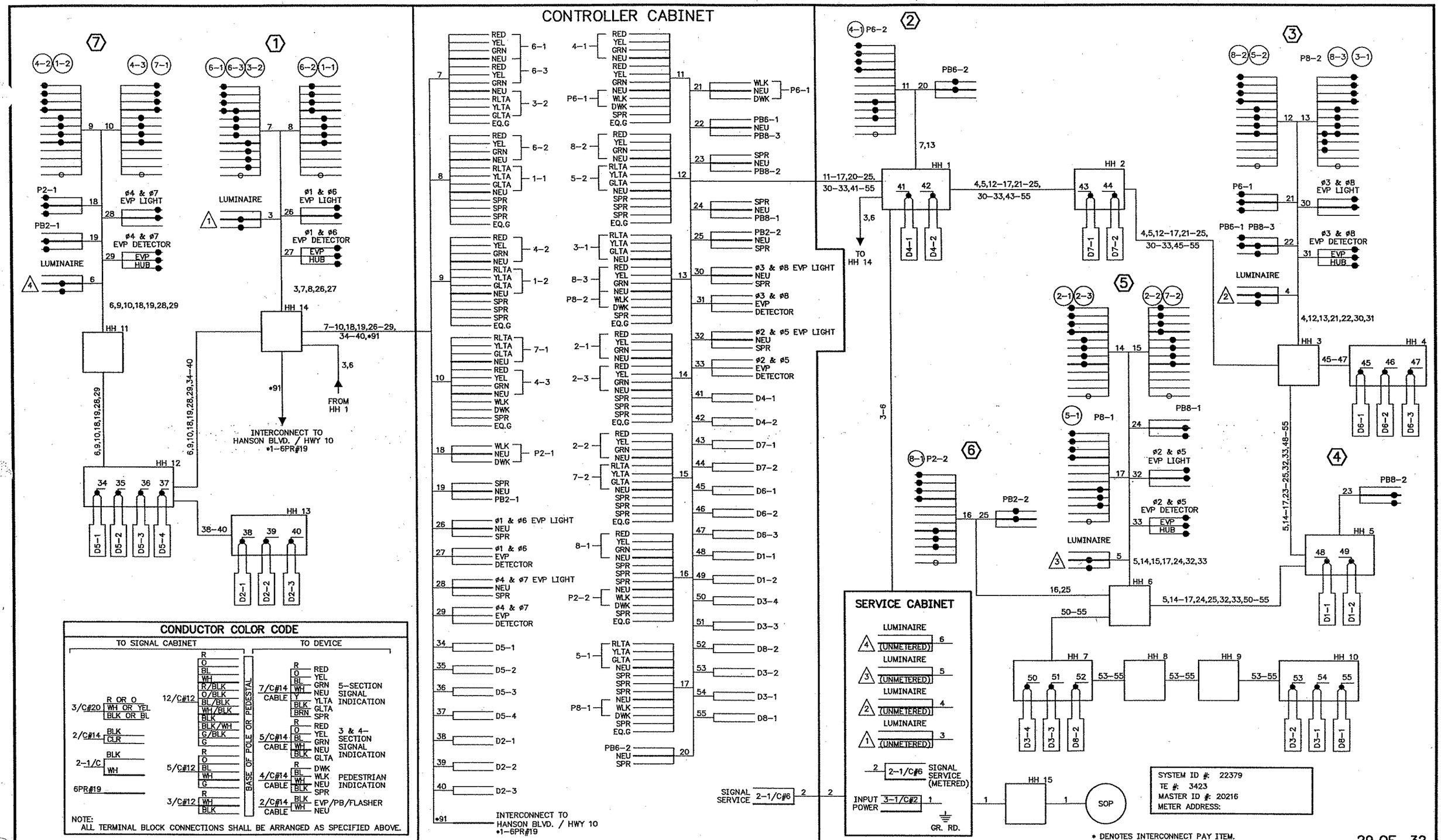
HANSON BLVD. / NORTHDALE BLVD.

SIGNAL SYSTEM "C"
INTERSECTION LAYOUT
(2 OF 2)

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 514 / 681

PLOT DATE: Jan 10:10am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\ 2007 042-TS12.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: JAS
DESIGN BY: MRA/YF
CHKED. BY: AJW/JFC
DWG. NAME: 042–TS19
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25087

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BLVD. / NORTHDALE BLVD.

SIGNAL SYSTEM "C"
FIELD WIRING DIAGRAM

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 515 / 681

PLOT DATE: Jan 07 10:11am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS*.dwg

NOTES:

1) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1" N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
2) NEW HANDHOLES SHALL BE CONCRETE HANDHOLES WITH TYPE "C" COVERS PER MN/DOT STANDARD PLATE No.8117F.
3) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
4) EACH PEDESTRIAN INDICATION IS 12"x12", IS INPLACE AND SHALL BE REUSED AS SHOWN.
5) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED APPROXIMATELY 6' FROM THE LEFT END OF EACH MAST ARM.

ANTICIPATED STATE WORK AT SYSTEM (AT NO COST TO THE CONTRACTOR) TO ACCOMMODATE EVP: REPLACEMENT OF CONTROLLER UNIT, HARNESS AND PANEL INSTALLATION.

LOOP DETECTORS

NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D2-1	6x6	250'	1
D2-2	6x6	250'	1
D4-1	6x6	130'	3,8
D4-2	6x6	130'	3,8
D4-3	2-6x6	AS SHOWN	7
D4-4	2-6x6	AS SHOWN	1
D5-1	2-6x6	20 & 50'	1,11
D5-2	2-6x6	5' & 35'	1,11
D6-1	6x6	250'	1
D6-2	6x6	250'	1

NOTE: LOCATION=DISTANCE FROM CROSSWALK TO FRONT OF LOOP DETECTOR.

LOOP DETECTOR FUNCTIONS:

1) CALL AND EXTEND
2) CALL ONLY
3) EXTEND ONLY
4) CALL ONLY DENSITY
5) DELAYED CALL ONLY
6) DELAYED CALL ONLY DENSITY
7) DELAYED CALL- IMMEDIATE EXTEND
8) CARRY OVER (STRETCH)
9) ADVISORY DETECTOR
10) SAMPLING DETECTOR
11) EXTEND Ø2 DURING Ø2 GREEN

0 10 20 40

N

NOTE: CONTRACTOR SHALL CHECK EACH MAST ARM POLE FOR HUBS AND SHALL FURNISH AND INSTALL ANY HUBS THAT ARE NEEDED PRIOR TO BEGINNING ANY OTHER EVP WORK. SEE SPECIAL PROVISIONS.

F & I ONE WAY EVP DETECTOR AND INDICATOR LIGHT (Ø4)-ATOP PEDESTAL POLE (SEE DETAILS)
▲ 1-3/c#12
▲1-3/c#20

(3) PEDESTAL FOUNDATION
PEDESTAL POLE AND BASE
TYPE 1A
EXTEND INTO H.H.5:
2" R.S.C.
1-12/c#12

F & I ONE WAY EVP DETECTOR AND INDICATOR LIGHT (Ø2,5)-OVERHEAD

(2) P100 POLE FOUNDATION
TYPE P100-A-35-D40-9 (DAVIT AT 350°)
LUMINAIRE-200 WATT H.P.S.
2-ONE WAY SIGNALS-OVERHEAD
TYPE 20B-POLE MOUNTED 0°
PEDESTRIAN PUSH BUTTON AND SIGN
TYPE "D" SIGN PANEL (108"x18") (D-1)
R10-12 SIGN PANEL (24"x30")-(ADJACENT TO 2-3)
EXTEND INTO H.H.4:
3" R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
1-3/c#12 (LUM)

(4) PEDESTAL FOUNDATION
PEDESTAL POLE AND BASE
TYPE 2B
PEDESTRIAN PUSH BUTTON AND SIGN
EXTEND INTO H.H.5:
2" R.S.C.
1-12/c#12
1-3/c#12

WOOD POLE (S.O.P.)
1 1/4" R.S.C. RISER AND WEATHERHEAD
3-1/c#6
EXTEND INTO H.H.12:
1 1/4" R.S.C.
3-1/c#6

3" R.S.C.
2-12/c#12
1-3/c#12
4-2/c#14

F & I ▲ 1-3/c#12 ▲1-3/c#20

1" R.S.C.
4-2/c#14

1" R.S.C.
2-2/c#14

1" R.S.C.
2-2/c#14

MATCH LINE - STATION 16+50

HANSON BLVD. (CSAH 78) (40 MPH)

Ø2,5 EVP

Ø4 EVP

Ø6 EVP

HANSON BLVD. (CSAH 78) (40 MPH)

NORTHDALE BLVD. (CSAH 11) (45 MPH)

H.H.1 H.H.2 H.H.3 H.H.4 H.H.5 H.H.6 H.H.7 H.H.8 H.H.9 H.H.10 H.H.11 H.H.12

D2-1 D2-2 D4-1 D4-2 D4-3 D4-4 D5-1 D5-2 D6-1 D6-2

18 22 12' 14'

2" R.S.C.
2-2/c#14
1-6 PR.#19

F & I ▲ 2-3/c#20

(TO H.H.20 - T.H. 10/47 AT HANSON BLVD)

(B) SERVICE CABINET
CABINET FOUNDATION
EXTEND INTO H.H.12:
1 1/4" R.S.C.
3-1/c#6
EXTEND INTO H.H.4:
METERED SIGNAL SERVICE
1 1/4" R.S.C.
2-1/c#6
1-1/c#6 BR. GR.
EXTEND INTO H.H.4:
UNMETERED STREET LIGHT SERVICE
1 1/4" R.S.C.
2-3/c#12 (LUM)

4" R.S.C.
4-12/c#12
3-3/c#12
1-3/c#20
4-2/c#14
1-3/c#12 (LUM)
2-1/c#6
1-1/c#6 BR. GR.

F & I ▲ 1-3/c#12 ▲1-3/c#20

2" R.S.C.
1-3/c#12 (LUM)

(A) CONTROLLER AND CABINET
CABINET FOUNDATION
EXTEND INTO H.H.1:
4" R.S.C.
4-12/c#12
3-3/c#12
1-3/c#20
6-2/c#14
2-1/c#6
1-1/c#6 BR. GR.
1-6 PR.#19
2" R.S.C.
1-12/c#12
2-3/c#12

(1) PEDESTAL FOUNDATION
PEDESTAL POLE AND BASE
TYPE 1D
2-PEDESTRIAN PUSH BUTTONS AND SIGNS
EXTEND INTO H.H.11:
2" R.S.C.
1-12/c#12
2-3/c#12

F & I ▲ 1-3/c#12 ▲3-3/c#20

EXTEND INTO H.H.11:
4" R.S.C.
3-12/c#12
4-3/c#12
1-3/c#20
4-2/c#14
1-2" R.S.C. AND 1-3" R.S.C. STUBBED OUT FROM CABINET TO NORTH (BOTH ENDS THREADED AND CAPPED-FOR FUTURE USE)

3" R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
4-2/c#14
1-3/c#12 (LUM)

CONTRACTOR SHALL FURNISH & INSTALL THE FOLLOWING MATERIALS ON MAST ARMS 2 AND 5:
ONE WAY EVP DETECTOR AND INDICATOR LIGHT AT APPROX. 4 FEET FROM THE LEFT END OF THE MAST ARM.

CONTRACTOR SHALL FURNISH & INSTALL THE FOLLOWING MATERIALS ON MAST ARM 3:
ONE WAY EVP DETECTOR AND INDICATOR LIGHT, ATOP PEDESTAL POLE AND FACING WESTBOUND TRAFFIC.

CONTRACTOR SHALL FURNISH & INSTALL THE FOLLOWING MATERIALS ON PEDESTAL POLE 6:
ONE WAY EVP DETECTOR, ATOP PEDESTAL POLE AND FACING WESTBOUND TRAFFIC.

CONTRACTOR SHALL FURNISH & INSTALL THE FOLLOWING MATERIALS ON LUMINAIRE EXTENSION OF MAST ARM POLE:
ONE WAY EVP DETECTOR, APPROX 30' ABOVE GROUND AND FACING NORTHBOUND TRAFFIC (SEE POLE 7 NOTES).

ALL CABLES, BRACKETING AND HARDWARE NECESSARY FOR EVP SYSTEM OPERATION SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR AS NOTED, UNLESS OTHERWISE NOTED IN THE SPECIAL PROVISIONS.

F & I ONE WAY EVP DETECTOR AND INDICATOR LIGHT (Ø6)-OVERHEAD

(5) PA85 POLE FOUNDATION
TYPE P80-A-25-D40-9 (DAVIT AT 350°)
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
ONE WAY SIGNAL-OVERHEAD
2-TYPE 10B-POLE MOUNTED 0° AND 270°
2-PEDESTRIAN PUSH BUTTONS AND SIGNS
TYPE "D" SIGN PANEL (108"x18") (D-2)
EXTEND INTO H.H.9:
3" R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
1-3/c#12 (LUM)

SYSTEM ID = 22379

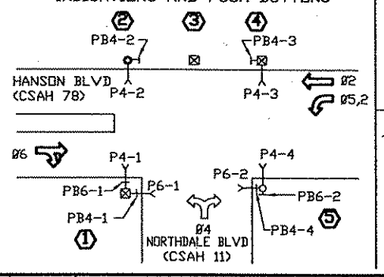
EMERGENCY VEHICLE PRE-EMPTION SYSTEM "B"

NOTE:
ALL COMPONENTS OF SIGNAL SYSTEM, EXCEPT EVP EQUIPMENT TO BE FURNISHED AND INSTALLED AS INDICATED IN THE PLANS, ARE INPLACE AND SHALL REMAIN INPLACE AS PART OF THE REVISED SIGNAL SYSTEM. SEE SPECIAL PROVISIONS FOR REQUIRED EVP EQUIPMENT IN CONTROLLER CABINET AND ADDITIONAL INFORMATION.

LEGEND:
▲ NEW CABLES TO BE F & I AS PART OF EVP SYSTEM
EVP DETECTOR UNIT (ONE WAY)
EVP DETECTOR UNIT (TWO WAY)
Ø SIGNAL PHASE

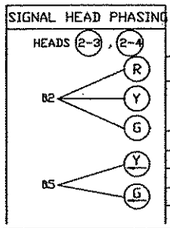
ALL MATERIALS TO BE F & I AS PART OF EVP SYSTEM ARE EITHER LABELED F & I AND BOXED IN, OR BOXED IN AND DENOTED BY ⟹ .

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATION:
- NORMAL OPERATION SHALL BE 3 PHASE, WITH PHASE 5 BEING A PROTECTED/ PERMISSIVE LEFT TURN PHASE.
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

SIGNAL HEAD PHASING



SIGNAL FACES

SIGNAL FACE	SIGNAL INDICATIONS ARE 12" R	Y	G	R	Y	G
2-1, 2-2	○	○	○			
2-3, 2-4	○	○	○		⟸	⟸
4-1, 4-2	○	○	○			
4-3, 4-4	○	○	○			
6-1, 6-2, 6-3	○	○	○			

FOR INFORMATION ONLY

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: | DESIGN BY:
CHKED. BY: | DWG. NAME: 042-TS09
DATE:

URS
Suite 800
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ MN LIC. NO. _____

TH 10/HANSON BOULEVARD INTERCHANGE

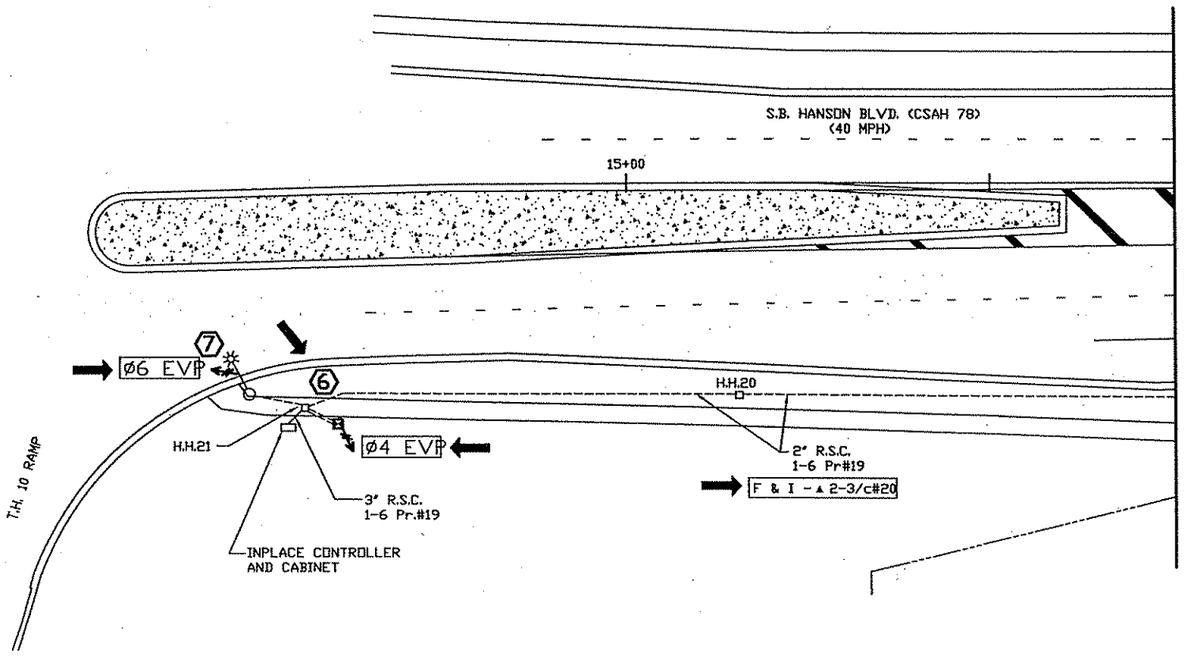
HANSON BLVD. / NORTHDALE BLVD.

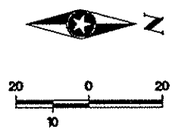
SIGNAL SYSTEM "C"
INPLACE INTERSECTION LAYOUT
(1 OF 2)

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 516 / 681

PLOT DATE: Jan 2007 10:11am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\042TS09.dwg





⑥ F & I — PEDESTAL FOUNDATION
10' PEDESTAL POLE AND BASE
ONE WAY EVP DETECTOR-MOUNT ON TOP OF PEDESTAL POLE (Ø4)-SEE DETAILS
EXTEND INTO H.H.21
2" R.S.C.
▲ 1-3/c#20

⑦ INPLACE — TRAFFIC SIGNAL MAST ARM POLE AND LUMINAIRE EXTENSION (TH 10 NORTH RAMP SIGNAL SYSTEM)
3" R.S.C. TO H.H.21

F & I — ONE WAY EVP DETECTOR-MOUNT ON LUMINAIRE EXTENSION-APPROX 30' ABOVE GROUND LINE
▲ 1-3/c#20 TO H.H.21

SYSTEM ID = 22379

EMERGENCY VEHICLE PRE-EMPTION SYSTEM "B"

NOTE:

ALL COMPONENTS OF SIGNAL SYSTEM, EXCEPT EVP EQUIPMENT TO BE FURNISHED AND INSTALLED AS INDICATED IN THE PLANS, ARE INPLACE AND SHALL REMAIN INPLACE AS PART OF THE REVISED SIGNAL SYSTEM. SEE SPECIAL PROVISIONS FOR REQUIRED EVP EQUIPMENT IN CONTROLLER CABINET AND ADDITIONAL INFORMATION.

LEGEND:

▲ NEW CABLES TO BE F & I AS PART OF EVP SYSTEM

EVP DETECTOR UNIT (ONE WAY)

EVP DETECTOR UNIT (TWO WAY)

Ø SIGNAL PHASE

ALL MATERIALS TO BE F & I AS PART OF EVP SYSTEM ARE EITHER LABELED F & I AND BOXED IN, OR BOXED IN AND DENOTED BY ▬▶ .

FOR INFORMATION ONLY

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: DESIGN BY:
CHKED. BY: DWG. NAME: 042-TS31
DATE:

URS
Wells Fargo Center
Suite 2500
7th Street and Marquette Avenue
Minneapolis, MN 55479-2500
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ MN LIC. NO. _____

TH 10/HANSON BOULEVARD INTERCHANGE

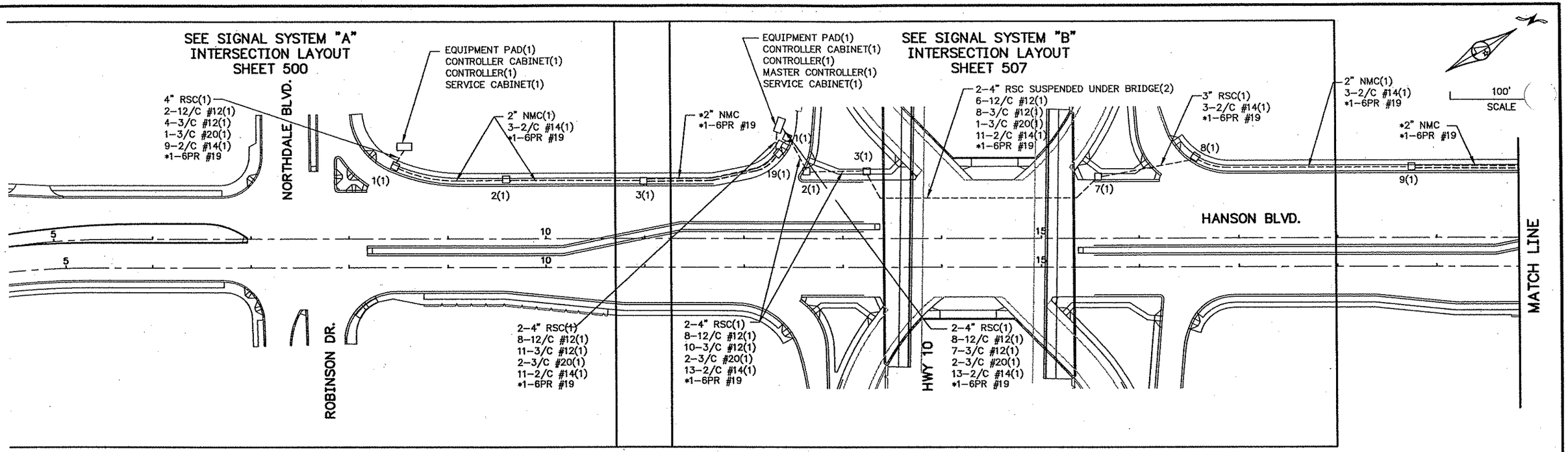
HANSON BLVD. / NORTHDALE BLVD.

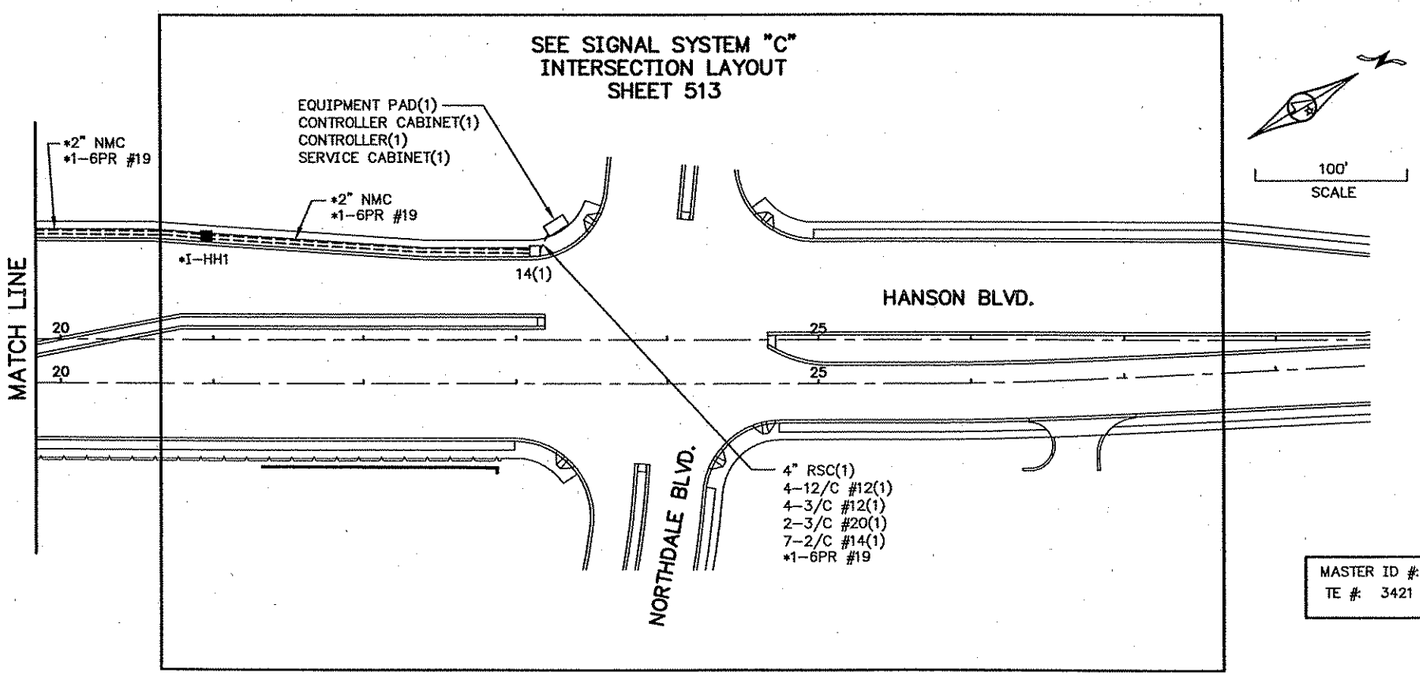
SIGNAL SYSTEM "C"
INPLACE INTERSECTION LAYOUT
(2 OF 2)

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 517 / 681

PLOT DATE: Jan 307 10:12am DISK FILE NAME: (18.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\0...sht.dwg





MASTER ID #: 20216
TE #: 3421

NOTES:

1. ITEMS DENOTED WITH A (1) ARE INSTALLED AS PART OF THE SIGNAL SYSTEMS AND ARE INCIDENTAL. REFER TO INTERSECTION LAYOUT SHEETS.
2. ITEMS DENOTED WITH A (2) ARE INSTALLED AS PART OF THE BRIDGE CONTRACT. REFER TO BRIDGE PLANS.
3. ITEMS DENOTED WITH AN * ARE INCIDENTAL.
4. THE CONTRACTOR SHALL COORDINATE PLACEMENT OF INTERCONNECT ITEMS WITH CONSTRUCTION OF THE AREA ROADWAY AND SIGNAL SYSTEMS.
5. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (PHONE 651-454-0002, THIS IS REQUIRED BY STATE STATUTE 2160).
6. SEE INTERSECTION LAYOUT SHEETS FOR RIGHT OF WAY.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JAS | DESIGN BY: MRA/YF
CHKED. BY: AJW/JFC | DWG. NAME: 042-TS20
DATE: 01/08/07

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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JOHN F. CRAWFORD
DATE: 01/08/07 MN LIC. NO. 25067

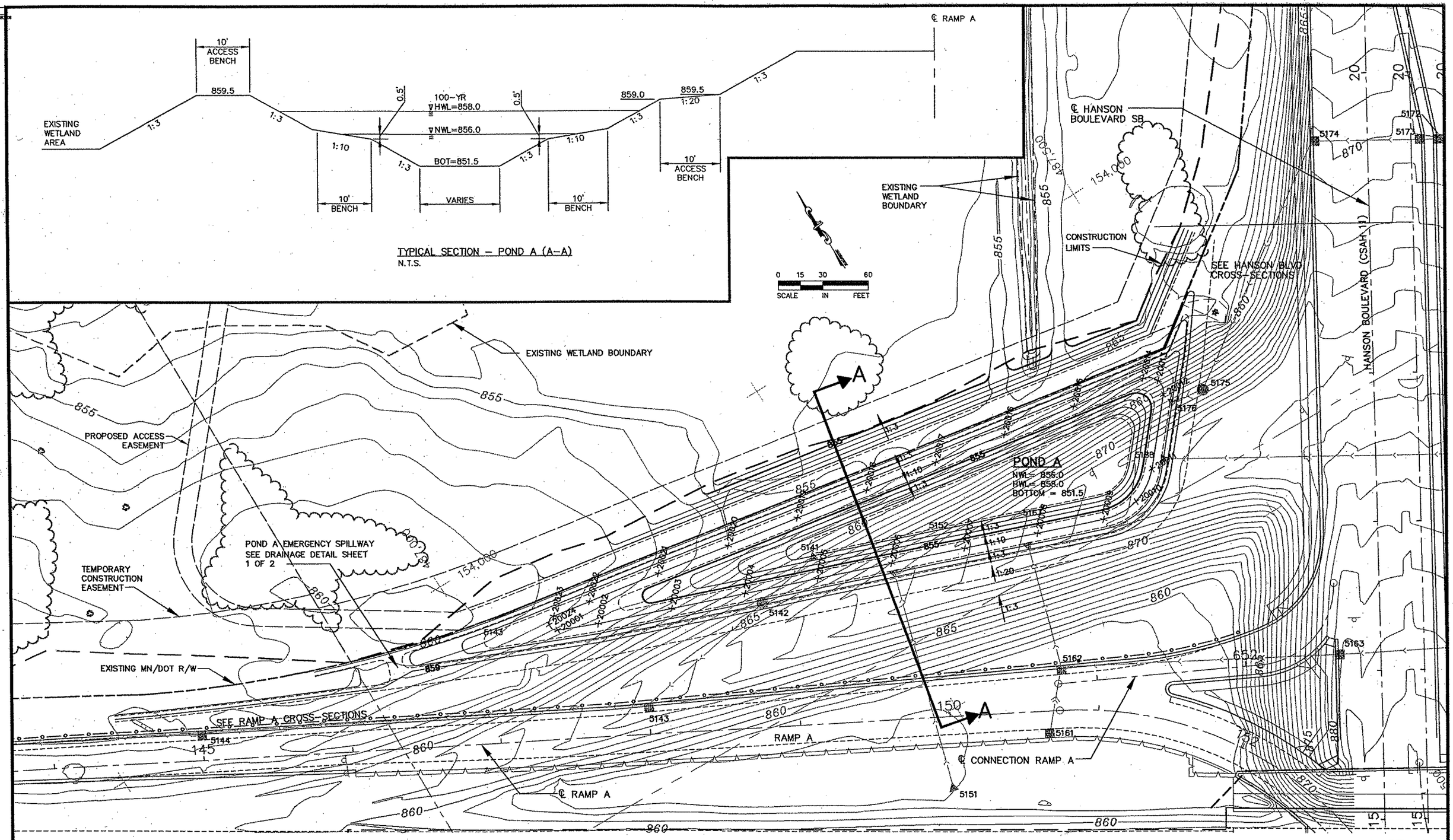
TH 10/HANSON BOULEVARD INTERCHANGE
ROBINSON DR. TO NORTHDALE BLVD.
TRAFFIC CONTROL SIGNAL SYSTEM
INTERCONNECT LAYOUT

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 518

PLOT DATE: Jan 2007 10:12am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\0.dwg

TYPICAL SECTION – POND A (A–A)
N.T.S.



1 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: JCD | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: PND01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
POND GRADING PLAN
PROPOSED POND A

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 519 / 681

PLOT DATE: Jan 07 10:10am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-PN.

Xref'd Drawings
4SN-EUT
4SN-PUT
4D-ESM
4SN-CON-LIM
4SN-ALI
4SN-ECN
4SN-PCO
4NS-PRD-CON-PND
4SN-ETO
4SN-ESC
3F-DW(
2x34bd(

SCALE 0 15 30 60 IN FEET

SEE RAMP C CROSS-SECTIONS

℄ RAMP C1

℄ RAMP C2

RAMP C

℄ CONNECTION RAMP C

EX-5136

PROPOSED MN/DOT R/W

EXISTING DRAINAGE EASEMENT

EX-5135

CONSTRUCTION LIMITS

EX. MN/DOT R/W

POND C EMERGENCY SPILLWAY
SEE DRAINAGE DETAIL SHEET 1 OF 2

EXISTING WETLAND BOUNDARY

SEE HANSON BLVD CROSS-SECTIONS

HANSON BOULEVARD (CSAH 11)

BURGER KING

SUPER AMERICA SERVICE

GAS PUMPS

LIGHTWEIGHT EMBANKMENT
SEE DETAIL, SHEET 4 OF 5

GEOSYNTHETIC CLAY LINER LIMITS

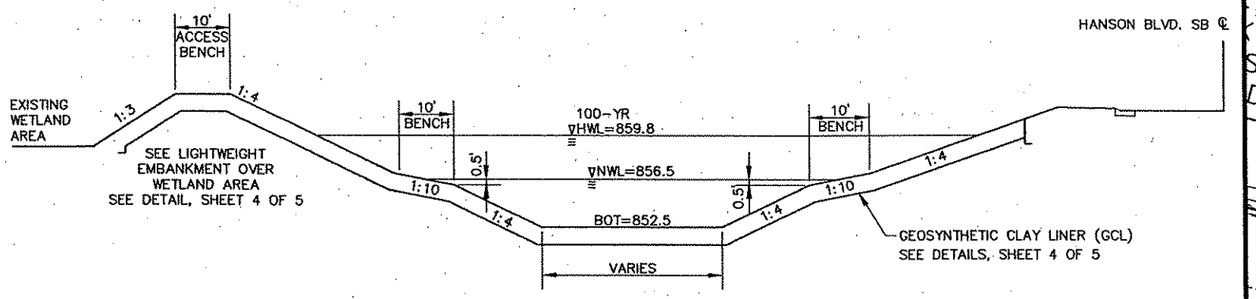
℄ HANSON BOULEVARD SB

℄ HANSON BOULEVARD NB

℄ HANSON BOULEVARD

PROPOSED R/W

POND C
NWL= 856.5
HWL= 859.8
BOTTOM = 852.5



TYPICAL SECTION – POND C (B-B)
N.T.S.

2 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JCD | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: PND02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

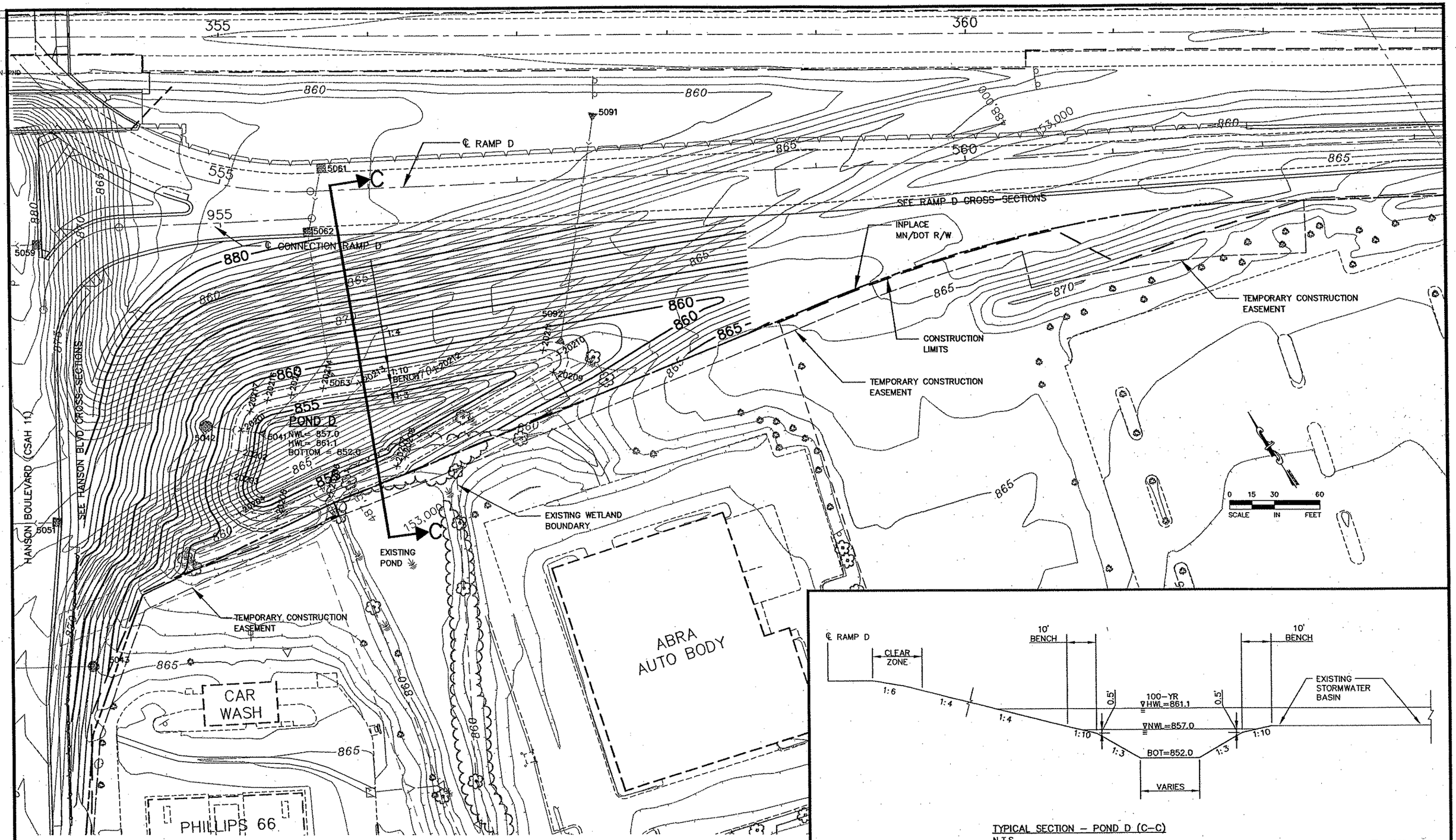
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
POND GRADING PLAN
PROPOSED POND C

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 520 / 681

PLOT DATE: Jan 07 10:10am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-PN



TYPICAL SECTION – POND D (C–C)
N.T.S.

3 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JCD
DESIGN BY: JCD
CHKED. BY: SAW
DWG. NAME: PND03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

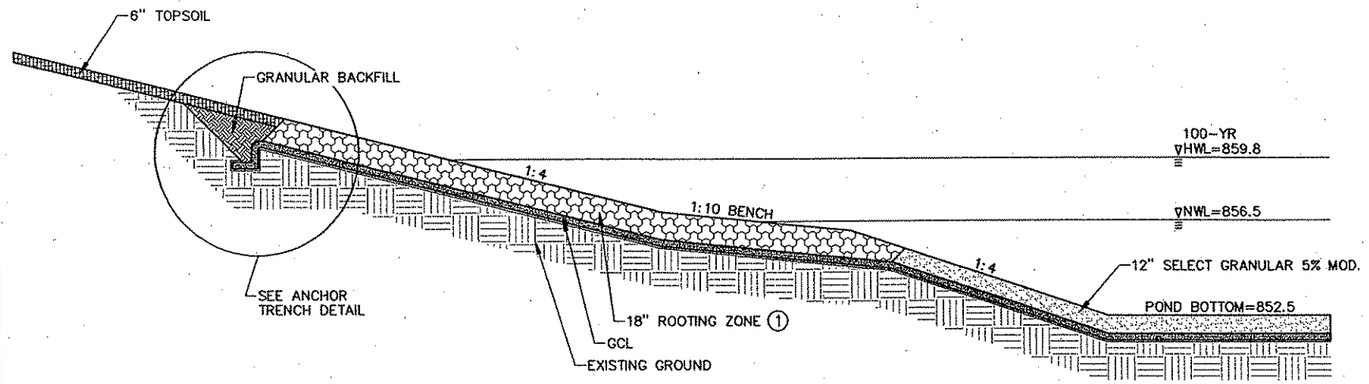
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
POND GRADING PLAN
PROPOSED POND D

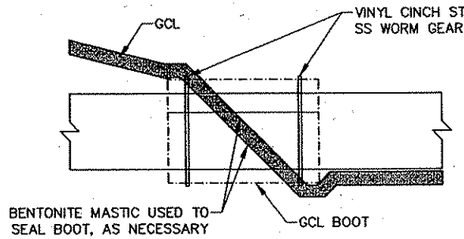
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 521 / 681

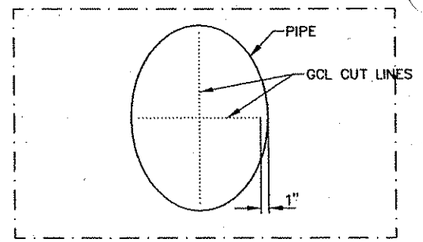
PLOT DATE: Jan 07 10:10am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-PNI



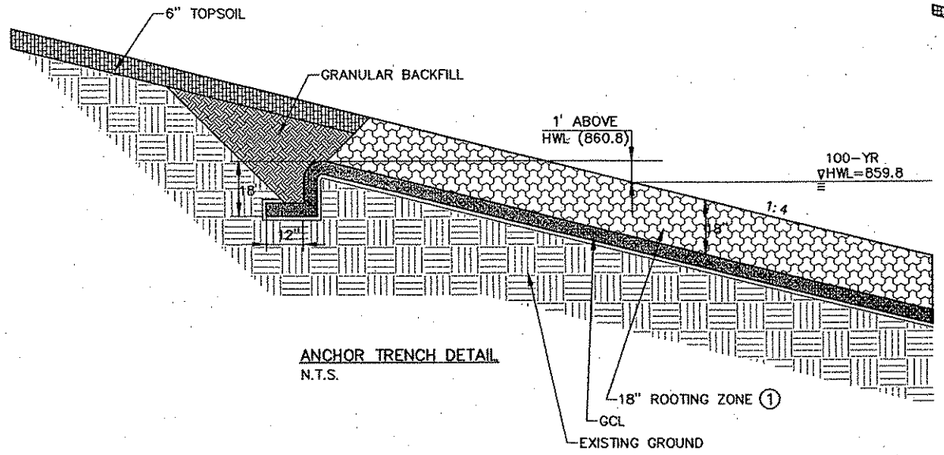
TYPICAL SECTION – GCL DETAIL
N.T.S.



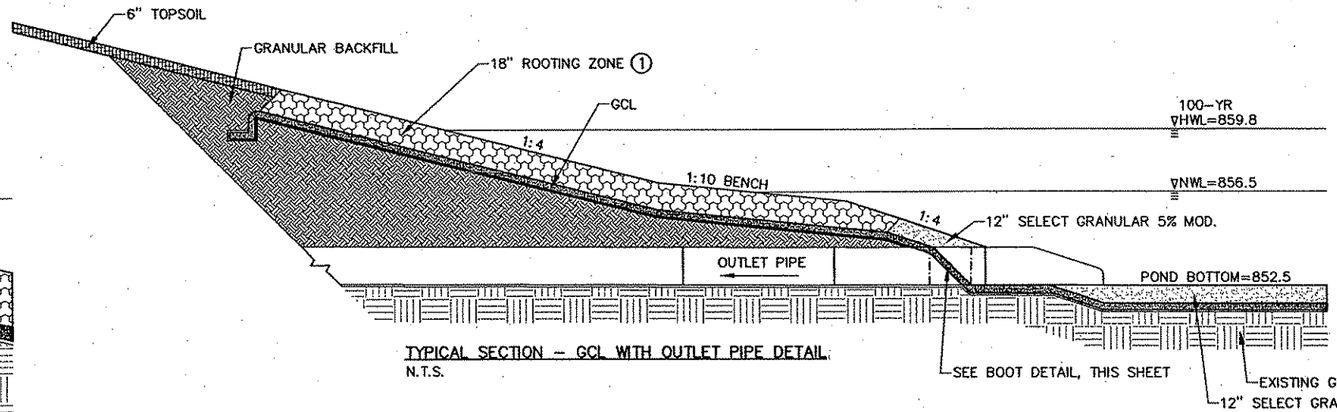
GCL BOOT DETAIL
N.T.S.



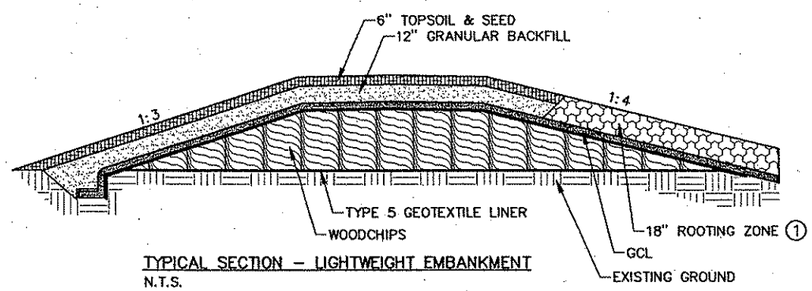
GCL CUT DETAIL
N.T.S.



ANCHOR TRENCH DETAIL
N.T.S.

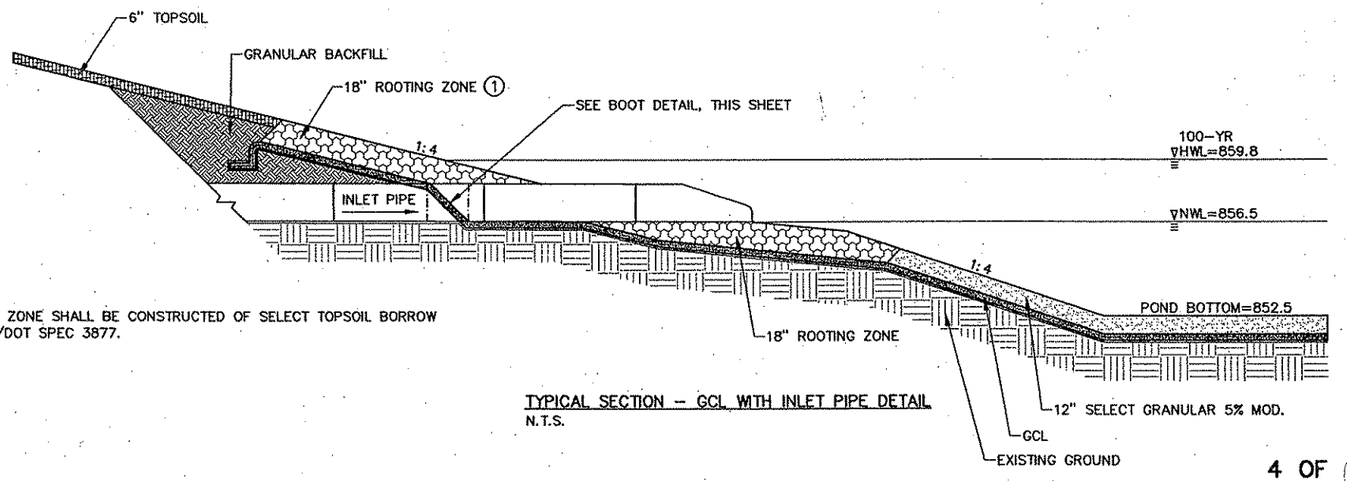


TYPICAL SECTION – GCL WITH OUTLET PIPE DETAIL
N.T.S.



TYPICAL SECTION – LIGHTWEIGHT EMBANKMENT
N.T.S.

① NOTE:
ROOTING ZONE SHALL BE CONSTRUCTED OF SELECT TOPSOIL BORROW PER Mn/DOT SPEC 3877.



TYPICAL SECTION – GCL WITH INLET PIPE DETAIL
N.T.S.

4 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: JCD | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: PN004
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
POND C DETAILS
PROPOSED POND C

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 522 / 681

PLOT DATE: Jan 07 10:10am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\PRD-CONST\042-PN

Xref'd Drawings
:F-DWG-BDR
:x34bdr

POND TABULATION – POND A

POINT NUMBER	NORTHING	EASTING
20001	153933.762	487051.563
20002	153923.132	487076.855
20003	153906.008	487123.832
20004	153888.885	487170.808
20005	153871.762	487217.785
20006	153854.638	487264.761
20007	153837.515	487311.738
20008	153820.392	487358.714
20009	153804.905	487401.200
20010	153803.736	487425.873
20011	153816.794	487446.840
20012	153855.091	487479.865
20013	153865.002	487481.703
20014	153871.478	487473.979
20015	153879.913	487424.696
20016	153888.348	487375.412
20017	153896.783	487326.129
20018	153905.218	487276.846
20019	153913.653	487227.562
20020	153922.088	487178.279
20021	153930.523	487128.995
20022	153938.958	487079.712
20023	153943.300	487054.344
20024	153939.771	487048.700

POND TABULATION – POND C

POINT NUMBER	NORTHING	EASTING
20101	153375.182	487030.518
20102	153372.563	487028.896
20103	153360.335	487028.662
20104	153345.768	487028.383
20105	153335.093	487025.450
20106	153326.401	487018.593
20107	153308.668	486995.448
20108	153294.104	486985.981
20109	153276.827	486987.798
20110	153264.552	487000.090
20111	153255.874	487014.234
20112	153237.933	487022.181
20113	153212.380	487009.200
20114	153189.817	486968.292
20115	153181.010	486959.810
20116	153169.271	486956.391
20117	153146.604	486956.784
20118	153139.013	486959.289
20119	153133.463	486965.042
20120	153101.352	487028.892
20121	153099.152	487053.517
20122	153116.565	487075.965
20123	153188.076	487104.462
20124	153196.013	487106.317
20125	153204.149	487105.808
20126	153225.902	487097.368
20127	153235.562	487098.115
20128	153244.233	487102.438
20129	153250.643	487109.703
20130	153261.890	487125.879
20131	153270.403	487131.637
20132	153297.421	487138.614
20133	153305.398	487138.088
20134	153312.212	487133.906
20135	153365.558	487070.242
20136	153367.274	487049.161
20137	153375.030	487033.596

POND TABULATION – POND D

POINT NUMBER	NORTHING	EASTING
20201	153114.295	487457.654
20202	153103.320	487448.674
20203	153092.604	487434.870
20204	153067.598	487426.680
20205	153050.669	487446.823
20206	153046.539	487486.112
20207	153038.558	487533.172
20208	153040.839	487541.221
20209	153036.698	487655.370
20210	153044.850	487665.157
20211	153052.398	487657.697
20212	153079.932	487589.754
20213	153098.950	487541.787
20214	153108.489	487519.624
20215	153116.083	487499.114
20216	153121.558	487483.713
20217	153121.581	487469.665

NOTE:
ALL POND POINTS ARE LOCATED ON
THE NORMAL WATER LEVEL CONTOUR.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: JCD | DESIGN BY: JCD
CHKED. BY: SAW | DWG. NAME: PND05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
POND TABULATION
PROPOSED PONDS A, C & D

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

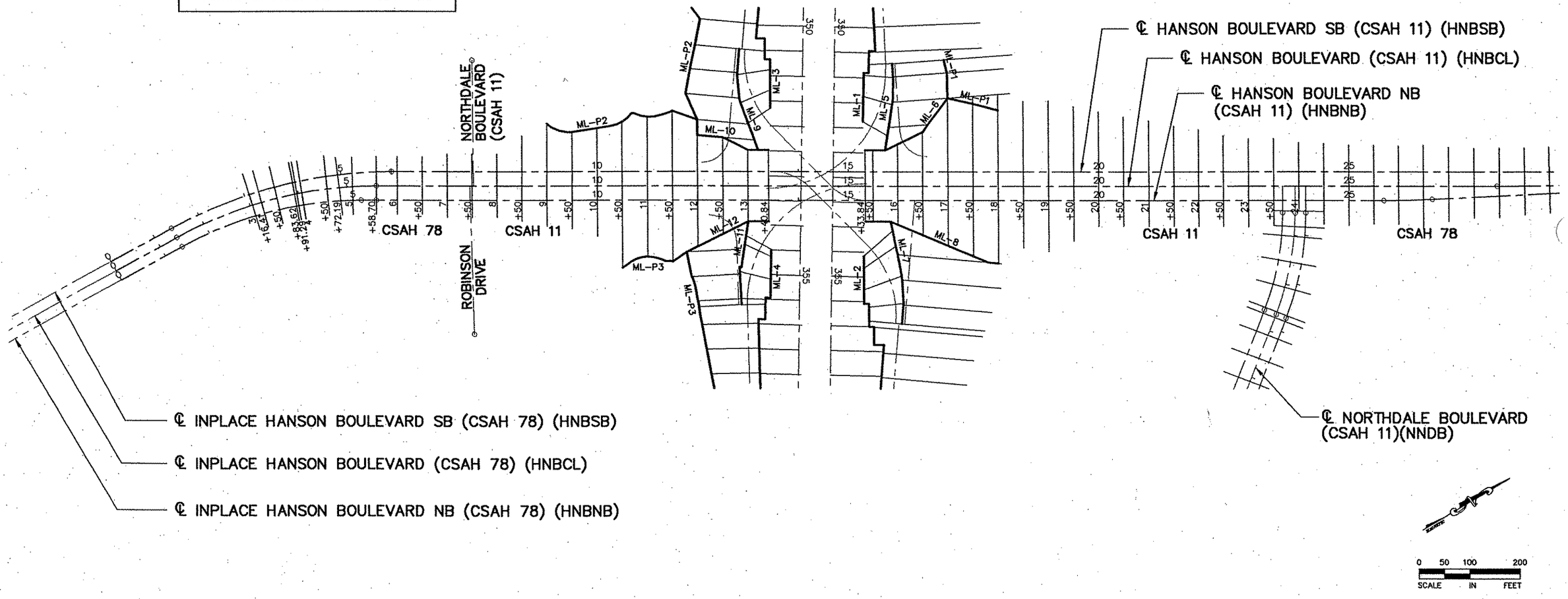
SHEET NO. 523 / 681

PLOT DATE: Jan 07 10:10am DISK FILE NAME: (16.1) R:\33689\33889042\PLAN-SHT\PRD-CONST\042-PNL

Xref'd Drawings
ect-layout
NSN-ALI
EF-DWG-BDR
2x34bdr

CROSS SECTION INDEX

ALIGNMENT NAME	SHEET No.
HANSON BOULEVARD	528 – 552
RAMP A	553 – 568
RAMP B	569 – 579
RAMP C	580 – 593
RAMP D	594 – 605
HIGHWAY 10 BRIDGE APPROACH TREATMENT	606 – 609
HIGHWAY 10 WESTBOUND	610 – 629
HIGHWAY 10 EASTBOUND	630 – 653
NORTHDALE BOULEVARD	654 – 681



1 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889–042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSML01
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CROSS SECTION MATCH LINE LAYOUT

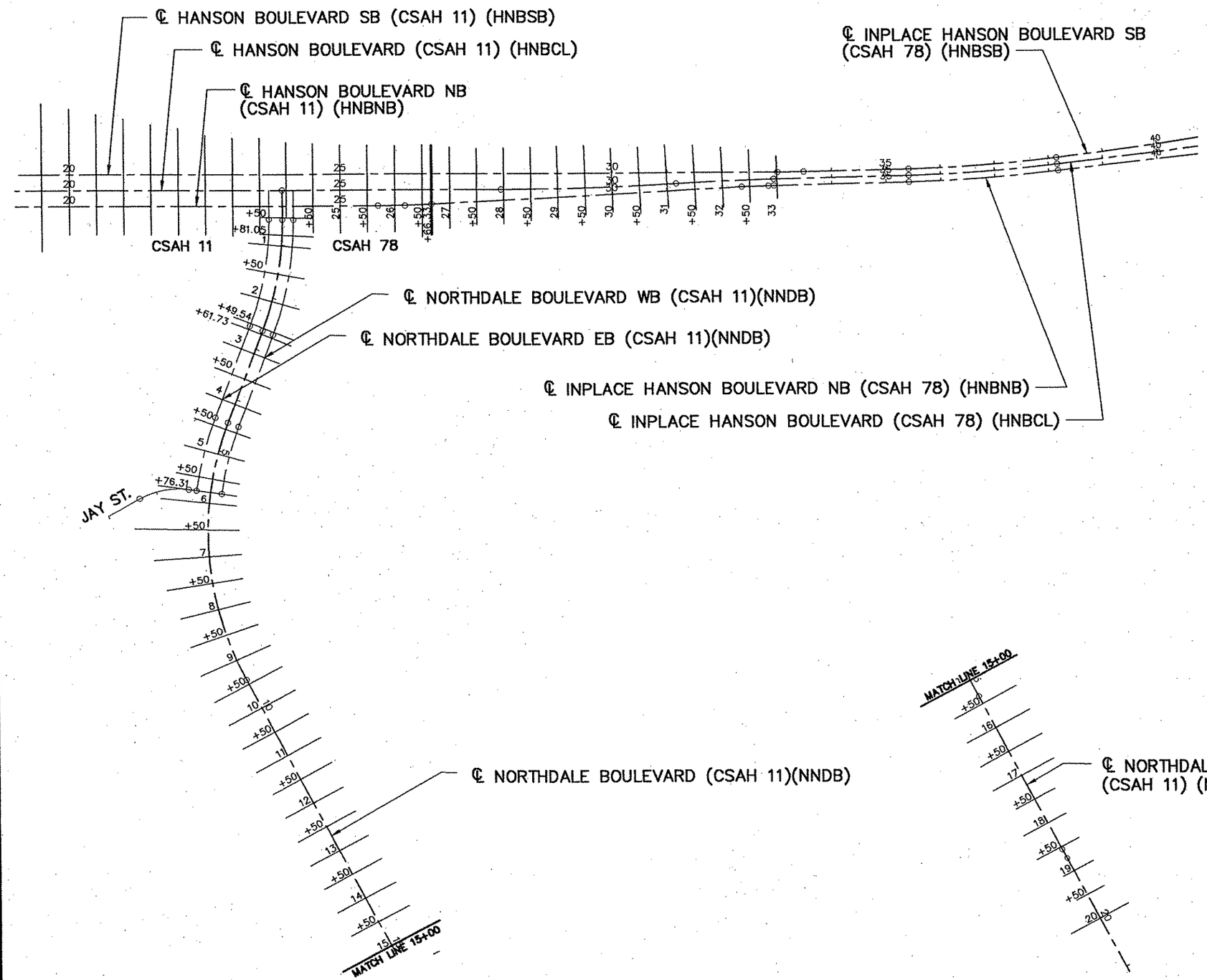
HANSON BOULEVARD

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. 524 / 681

PLOT DATE: Jan 07 10:36am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-01.dwg

Xref'd Drawings
sect-layout
HNSN-ALI
REF-DWG-BDR
22x34bdr



2 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSML02
DATE: JANUARY 8, 2007

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Minneapolis, MN 55415
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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE

CROSS SECTION MATCH LINE LAYOUT

HANSON BOULEVARD
NORTHDALE BOULEVARD

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 525 / 681

PLOT DATE: Jan 07 10:36am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-302.dwg

Xref'd Drawings
sect-layout
HNSN-ALI
REF-DWG-BDR
22x34bdr

℄ CONNECTION A (HNBCA)

℄ RAMP A (HNBRA)

℄ INPLACE TH 10/47 WB (H10WB)

℄ INPLACE TH 10/47 EB (H10EB)

℄ RAMP C1 (HNBRC1)

℄ RAMP C2 (HNBRC2)

℄ CONNECTION C (HNBCC)

0 50 100 200
SCALE IN FEET

PLOT DATE: Jan 07 10:37am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04 03.dwg

3 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042	
DRAWN BY: PMJ	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: CSML03
DATE: JANUARY 8, 2007	

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CROSS SECTION MATCH LINE LAYOUT

T.H. 10/47 WESTBOUND AND EASTBOUND
RAMP A AND RAMP C

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 526 / 681

Xref'd Drawings
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REF-DWG-BDR
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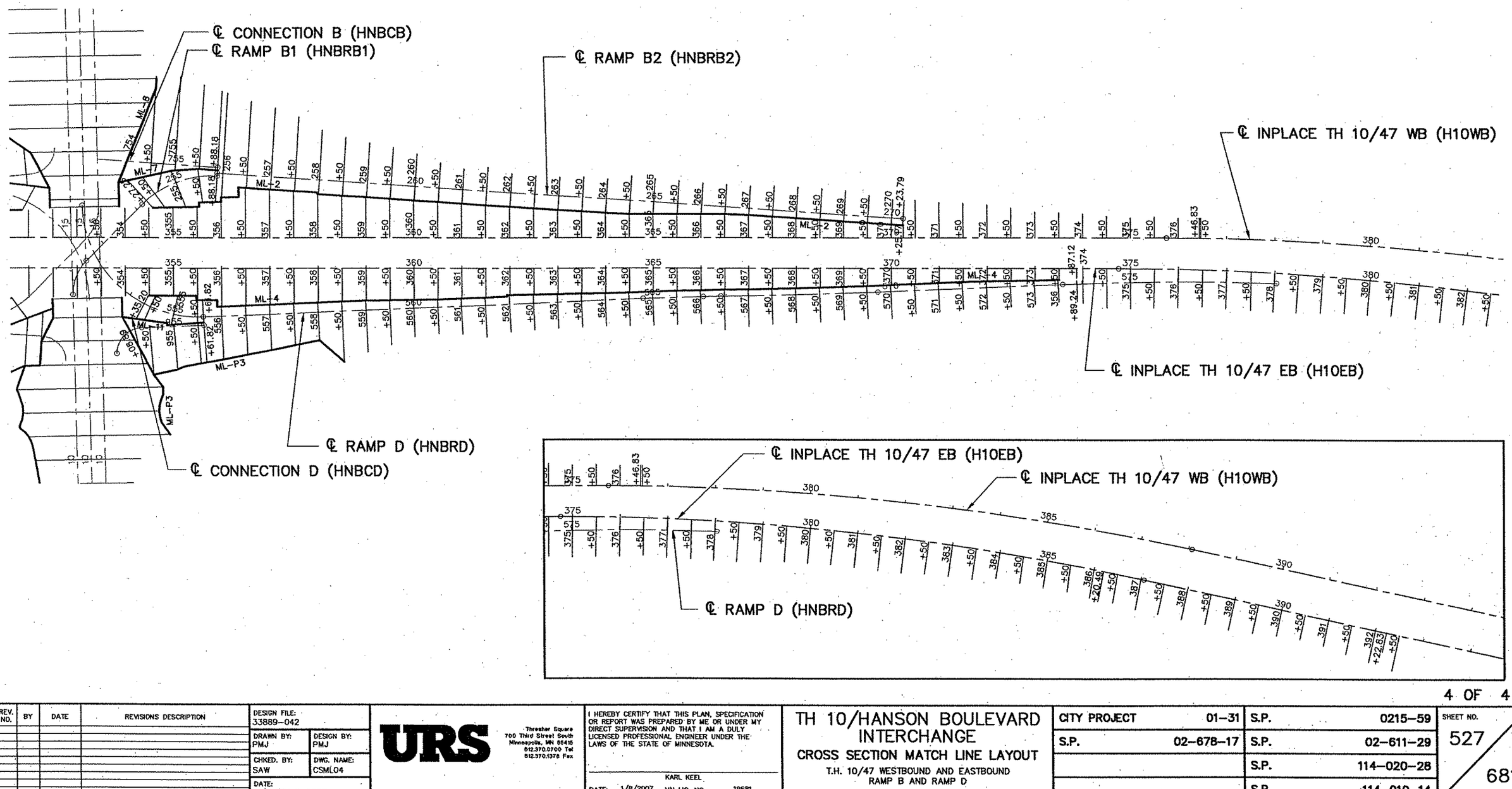

4 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSML04
DATE: JANUARY 8, 2007

URS
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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

CROSS SECTION MATCH LINE LAYOUT

T.H. 10/47 WESTBOUND AND EASTBOUND
RAMP B AND RAMP D

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 527 / 681

PLOT DATE: Jan 07 10:37am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-04.dwg

Xref'd Drawings
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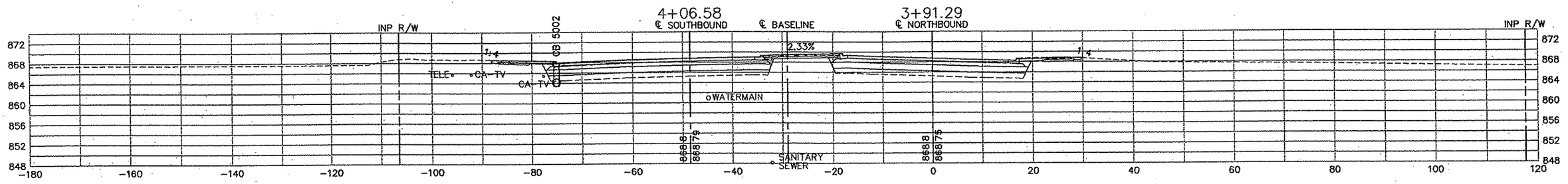
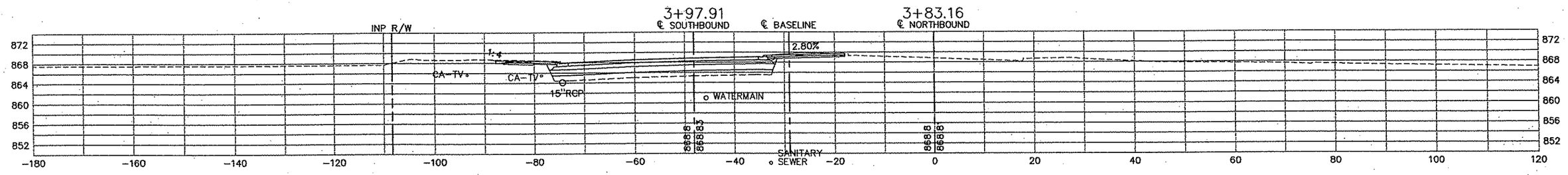
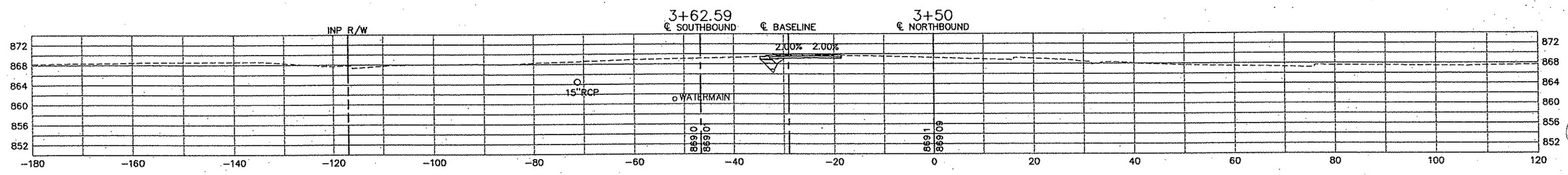
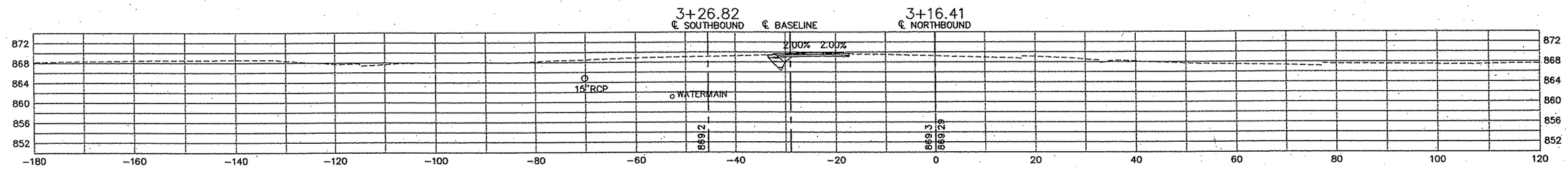
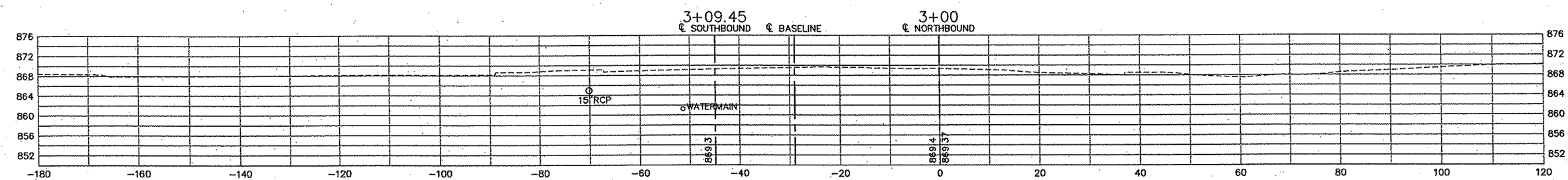
-hans-blvd
-34bdr











REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-01
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

CROSS SECTIONS
STATION 3+00.00 TO STATION 3+91.29

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 528 / 681

PLOT DATE: Jan 07 10:31am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-01.dwg

Xref'd Drawings
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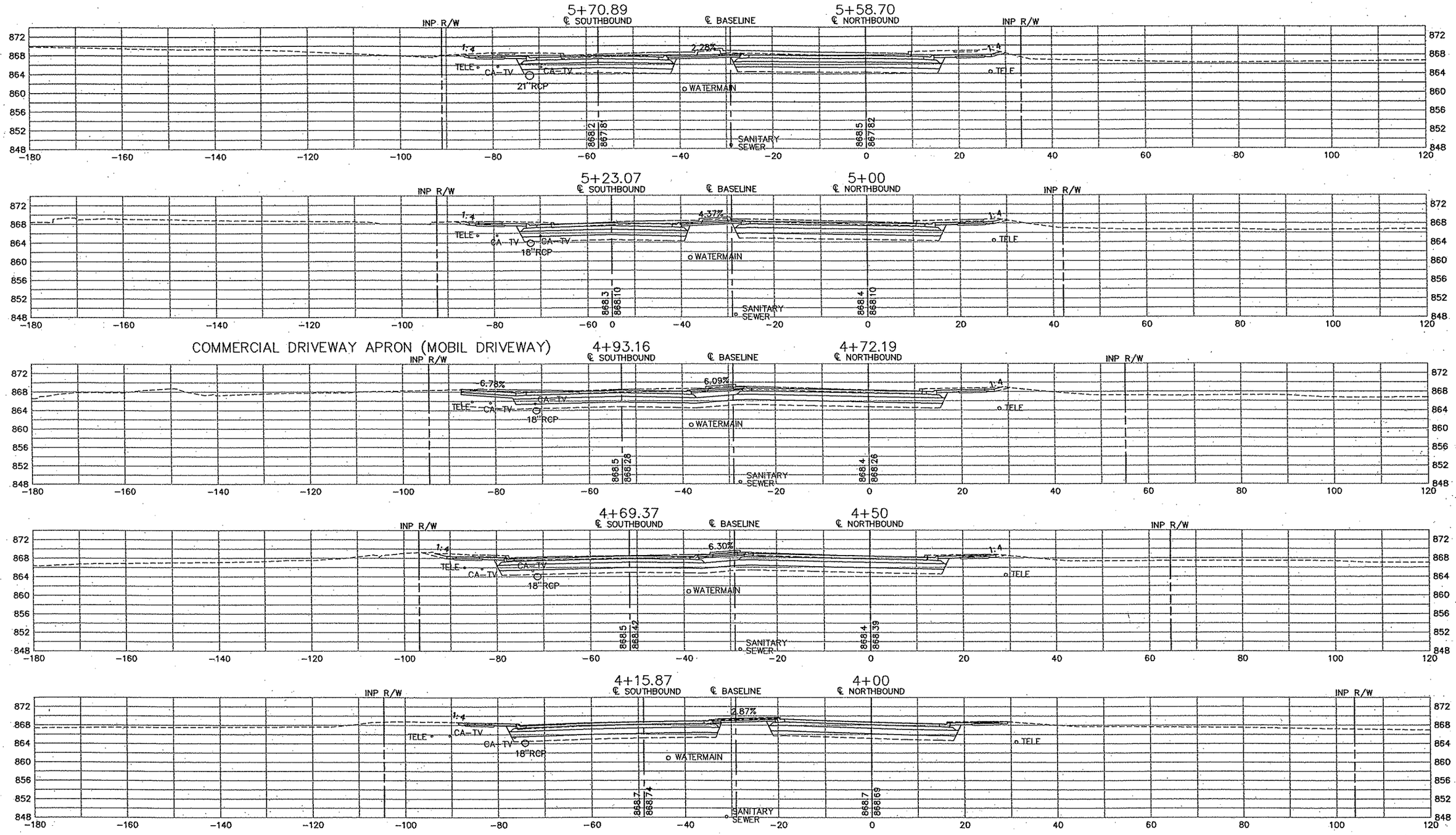

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: PMJ	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: CSHN-02
DATE:	JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

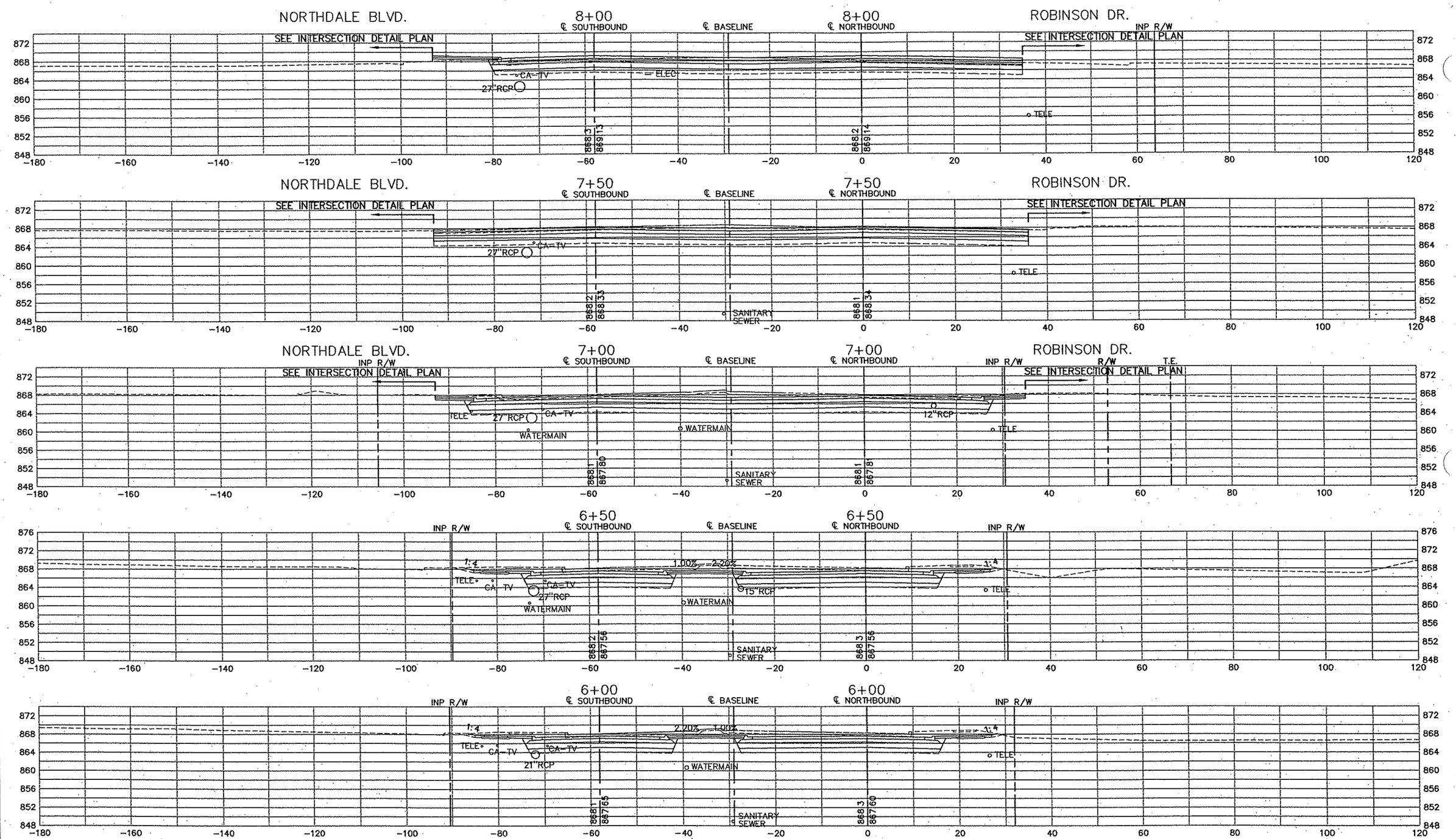
HANSON BOULEVARD

CROSS SECTIONS
STATION 4+00.00 TO STATION 5+58.70

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 529 / 681

PLOT DATE: Jan 07 10:31am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-02.dwg



3 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSHN-03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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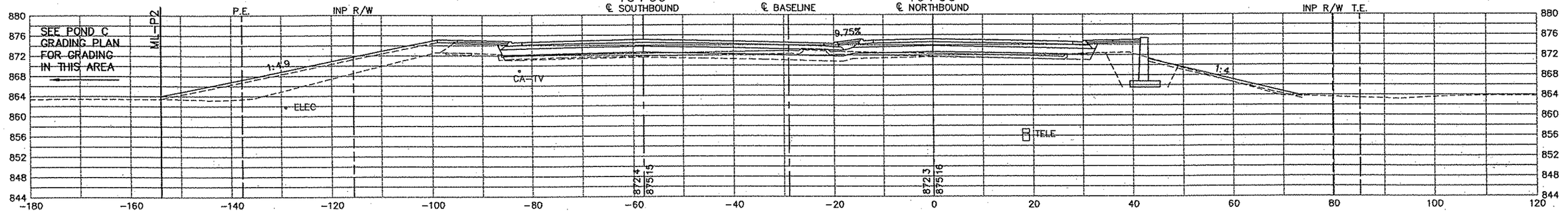
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

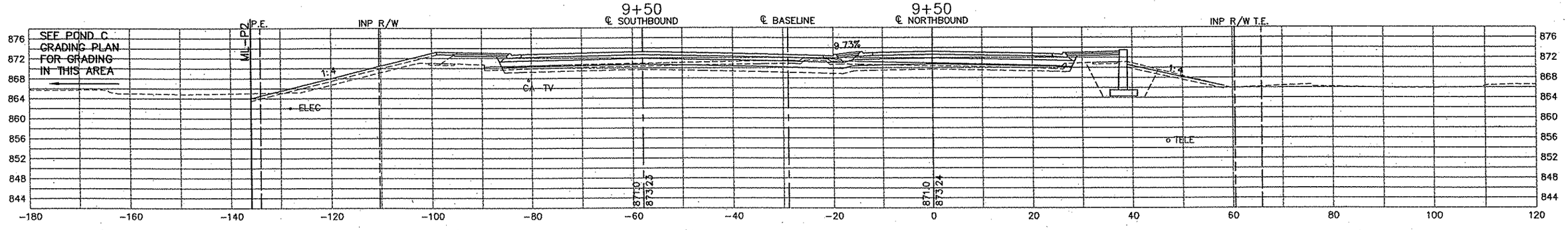
TH 10/HANSON BOULEVARD INTERCHANGE
HANSON BOULEVARD
CROSS SECTIONS
STATION 6+00.00 TO STATION 8+00.00

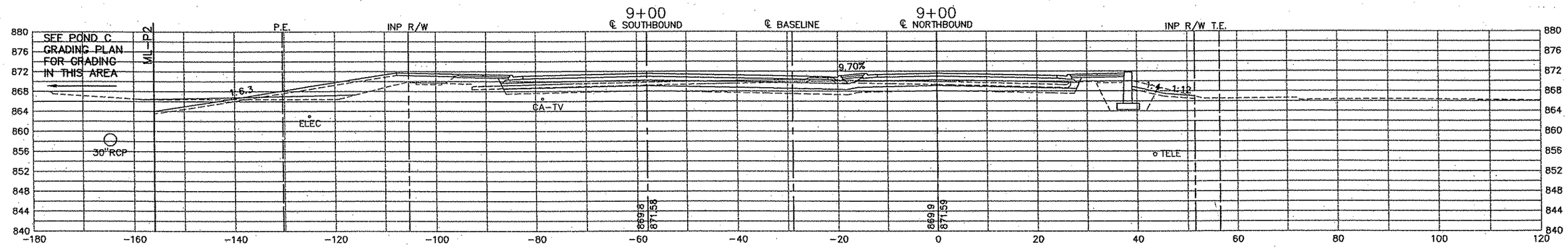
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

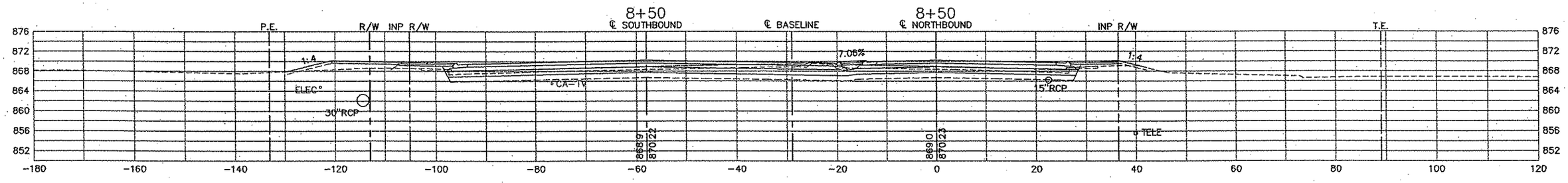
SHEET NO. 530 / 681

PLOT DATE: Jan 07 10:31am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-03.dwg









REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

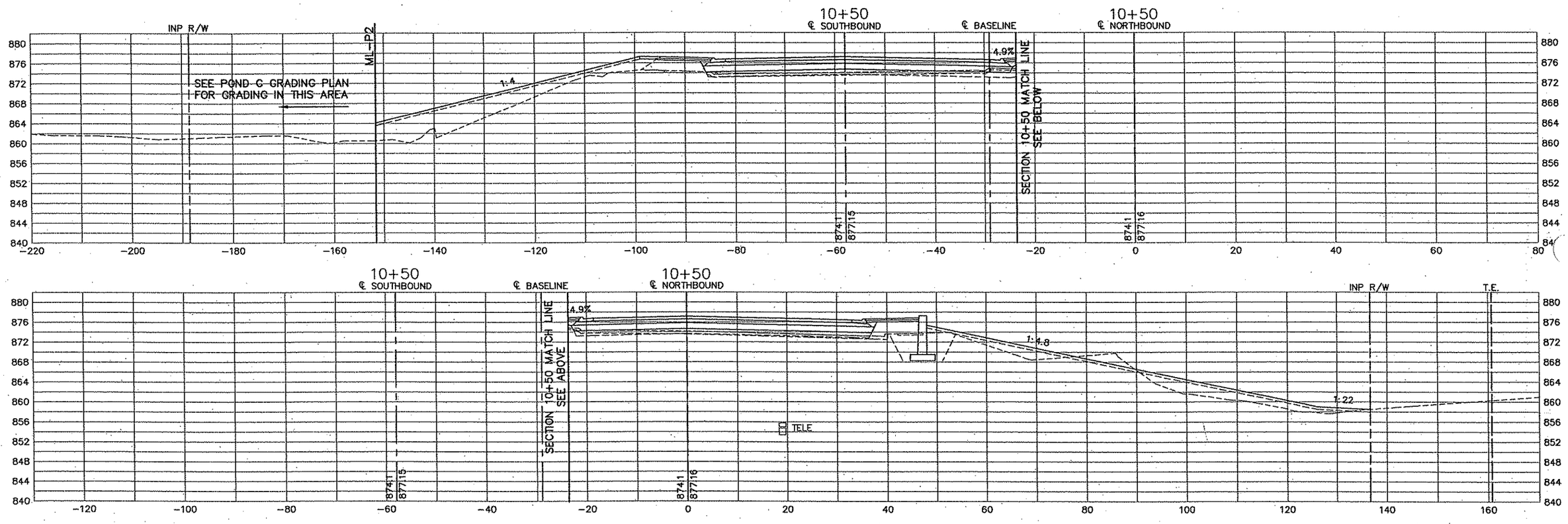
CROSS SECTIONS
STATION 8+50.00 TO STATION 10+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 531 / 681

PLOT DATE: Jan 07 10:31am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04.1-04.dwg

Xref'd Drawings
:-HNSN-QNTY
-hans-blvd
:34bdr



PLOT DATE: Jan 07 10:31am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-05.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-05
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

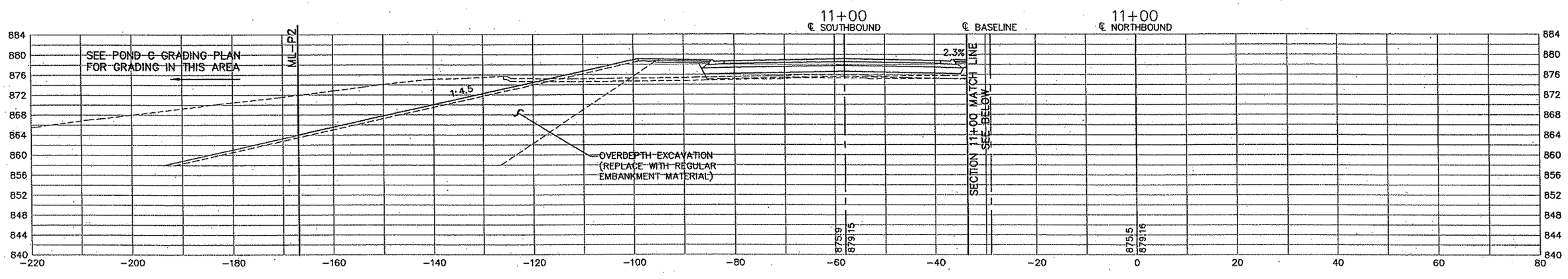
TH 10/HANSON BOULEVARD INTERCHANGE

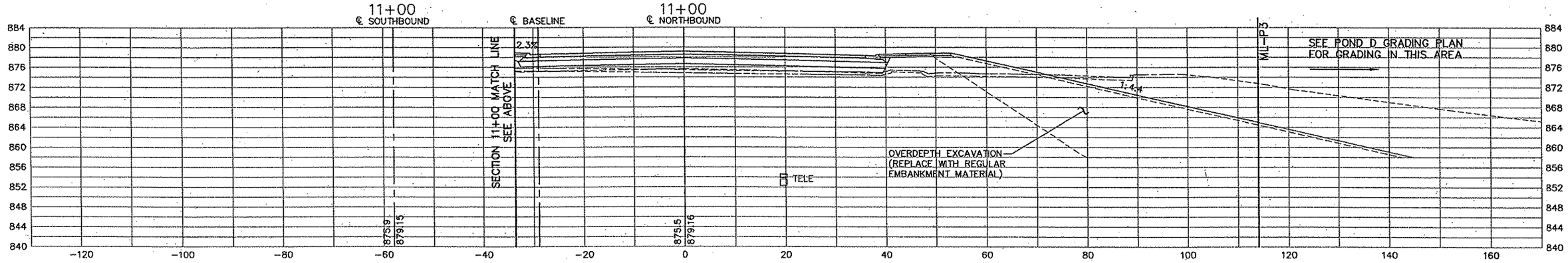
HANSON BOULEVARD

CROSS SECTIONS
STATION 10+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

Xrefd Drawings
2-HNSN-QNTY
-hans-blvd
t34bdr





REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-06
DATE: JANUARY 8, 2007

URS
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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

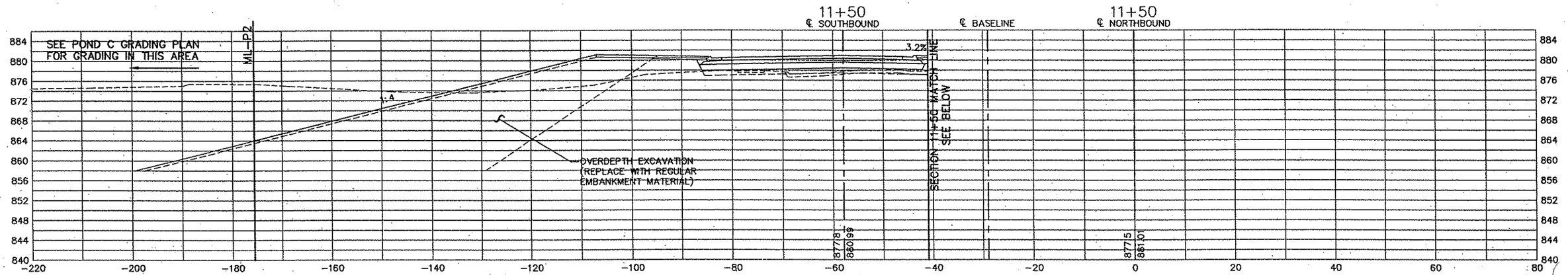
CROSS SECTIONS
STATION 11+00.00

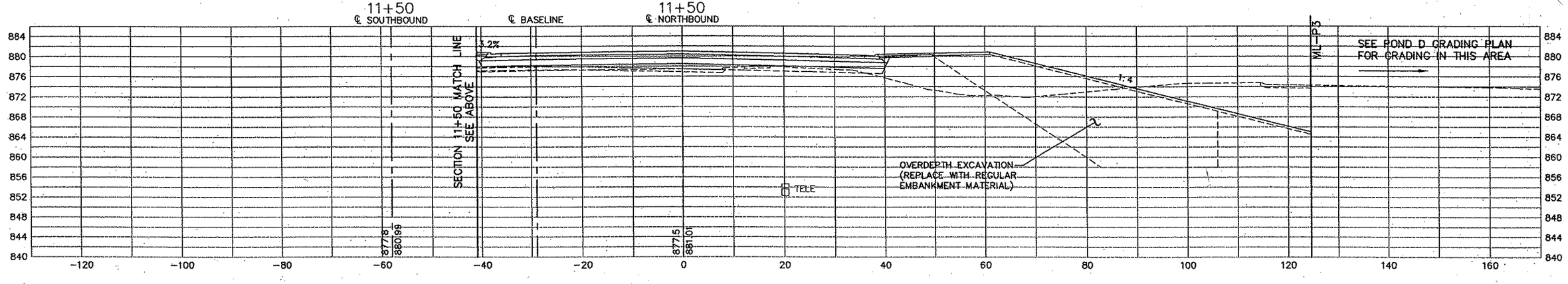
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 533 / 681

PLOT DATE: Jan 07 10:31am DISK FILE NAME: (16.1) R:\33889\338890042\PLAN-SHT\CROSS-SECTIONS\042-06.dwg

Xref'd Drawings
!-HNSN-QNTY
-hans-blvd
:34bdr





REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-07
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

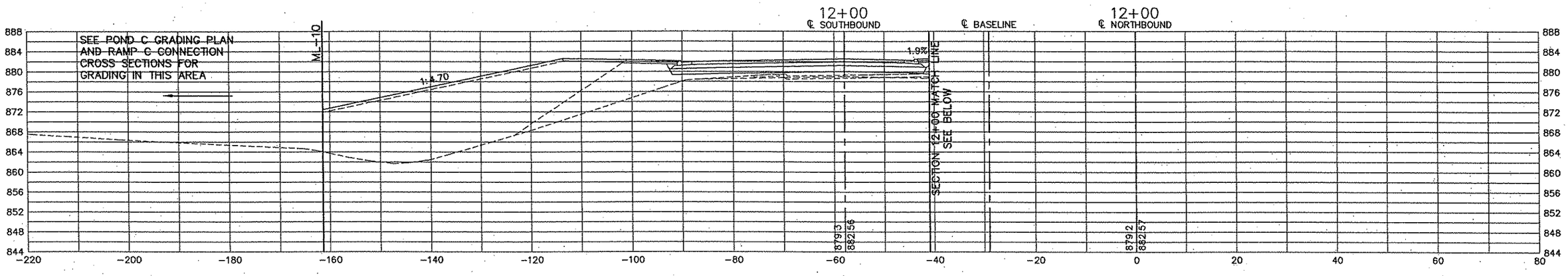
CROSS SECTIONS
STATION 11+50.00

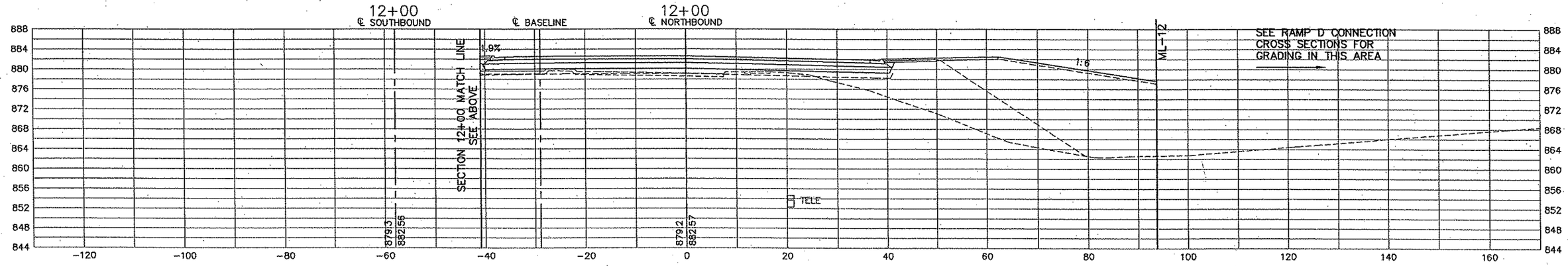
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 534

PLOT DATE: Jan 07 10:31am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-07.dwg

Xref'd Drawings
2-HNSN-CNTY
-hans-blvd
c34bdr





PLOT DATE: Jan 07- 10:31am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-08.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY:	PMJ
DESIGN BY:	PMJ
CHKED. BY:	SAW
DWG. NAME:	CSHN-08
DATE:	JANUARY 8, 2007

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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

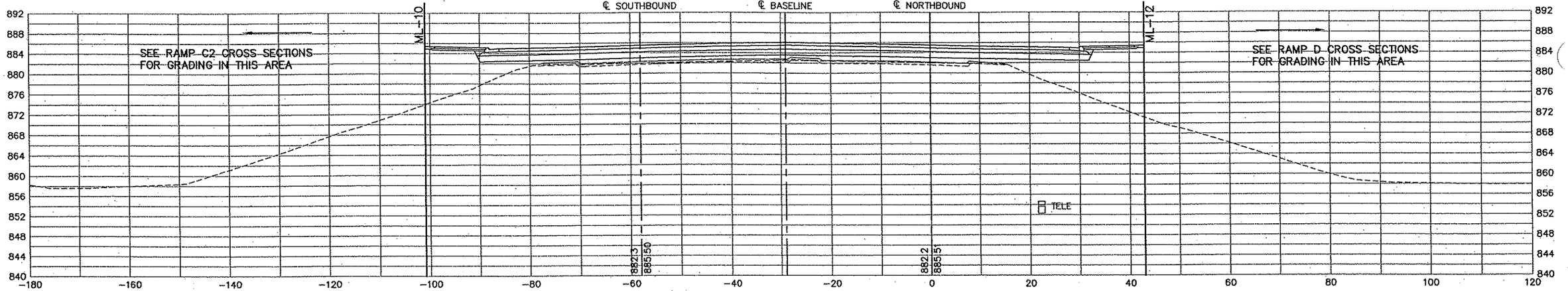
HANSON BOULEVARD

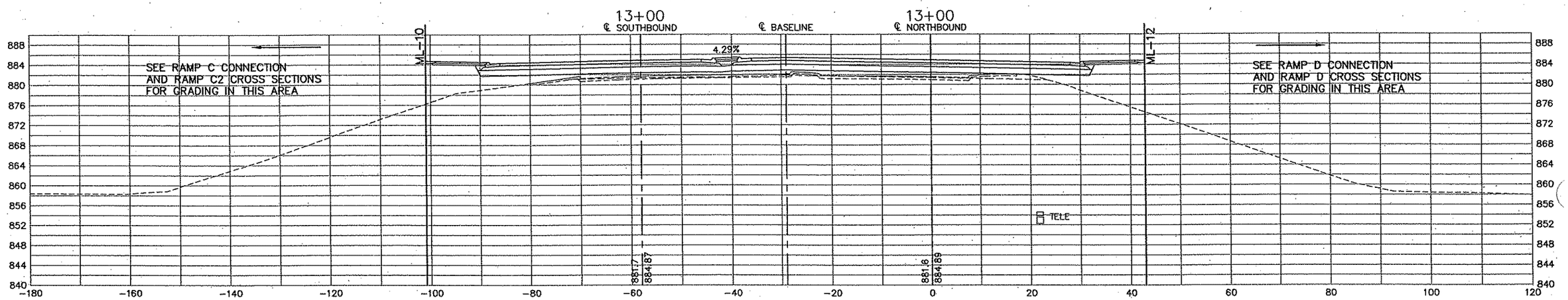
CROSS SECTIONS
STATION 12+00.00

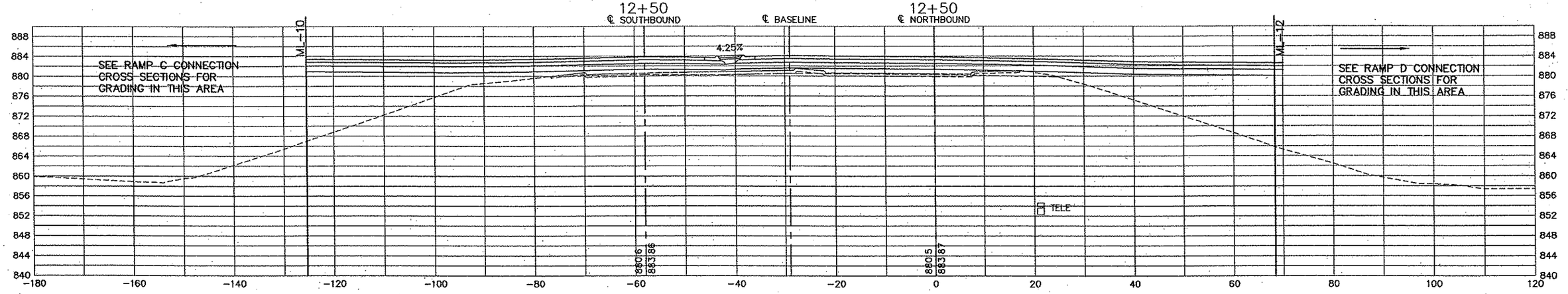
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 535 / 681

Xref'd Drawings
?-HNSN-QNTY
-hans-blvd
:34bdr







REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-09
DATE: JANUARY 8, 2007

URS
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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

CROSS SECTIONS
STATION 12+50.00 TO STATION 13+40.84

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 536 / 681

PLOT DATE: Jan 07 10:31am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-CSHN-09.dwg

Xref'd Drawings
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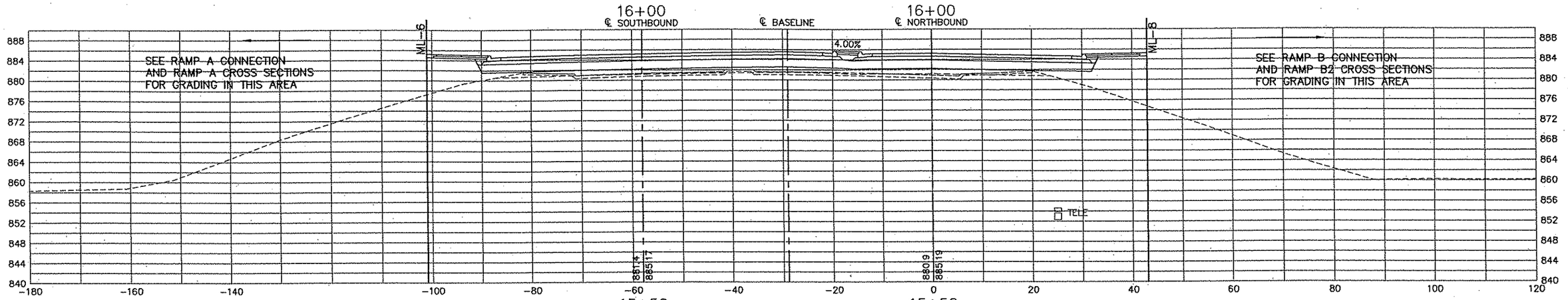
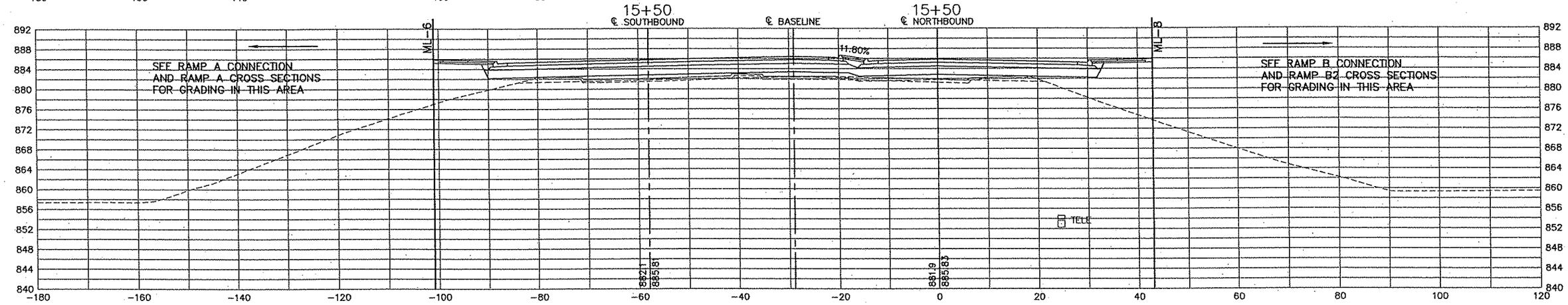
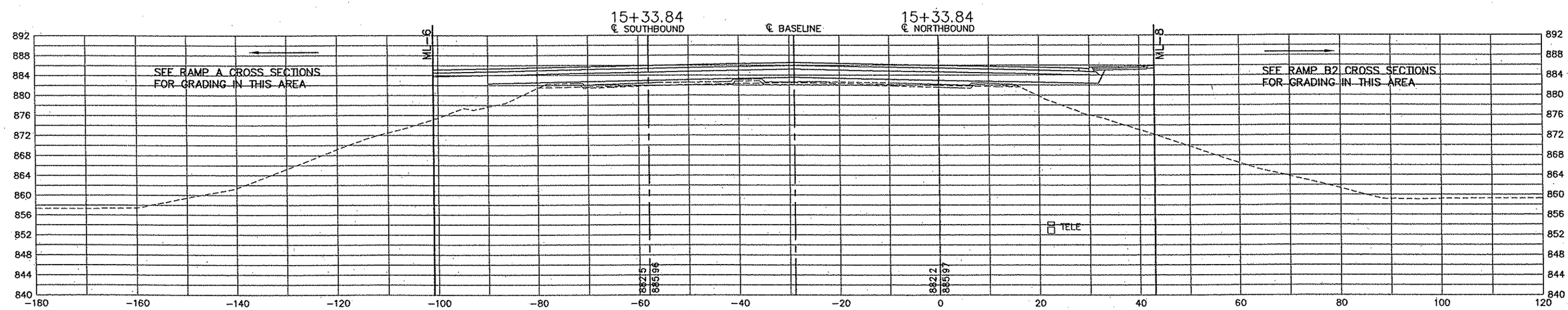
-hans—blvd
t34bdr







REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889—042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSHN—10
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

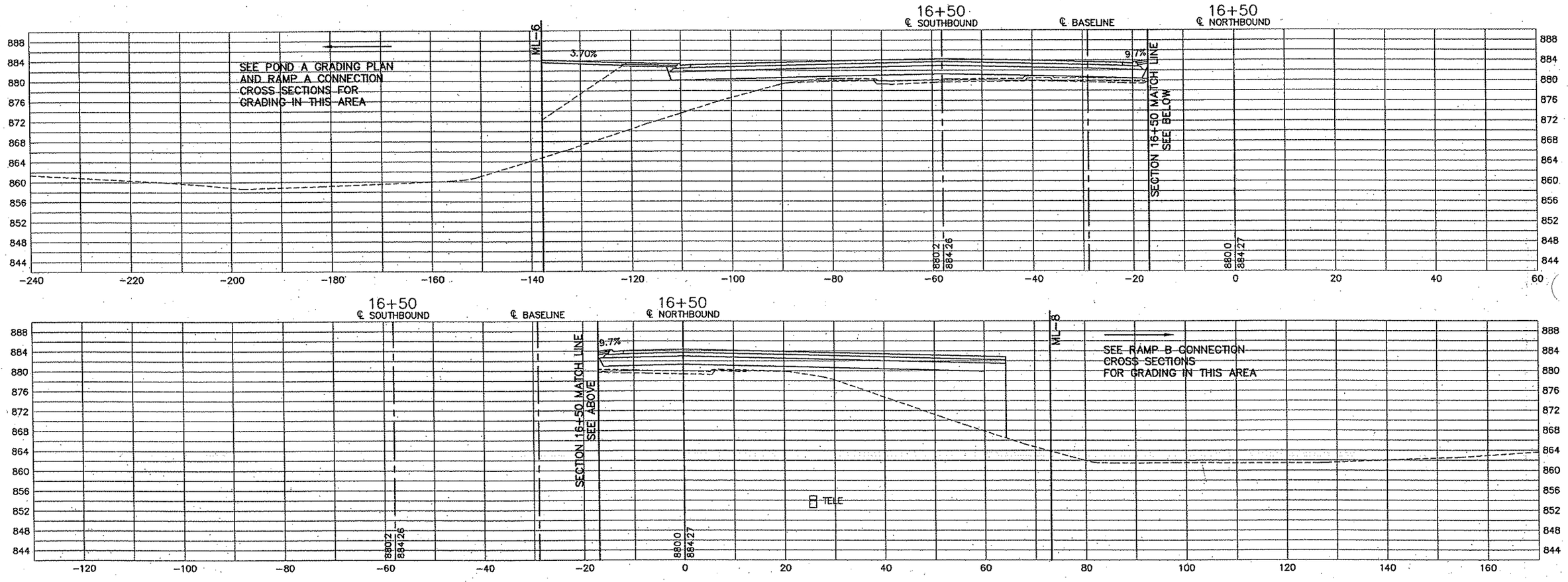
CROSS SECTIONS
STATION 15+33.84 TO STATION 16+00.00

CITY PROJECT	01—31	S.P.	0215—59
S.P.	02—678—17	S.P.	02—611—29
		S.P.	114—020—28
		S.P.	114—010—14

SHEET NO. 537 / 681

PLOT DATE: Jan 2007 10:31am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-N-10.dgn

Xref'd Drawings
?—HNSN—QNTY
-hans-blvd
:34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-11
DATE: JANUARY 8, 2007

URS
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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

CROSS SECTIONS
STATION 16+50.00

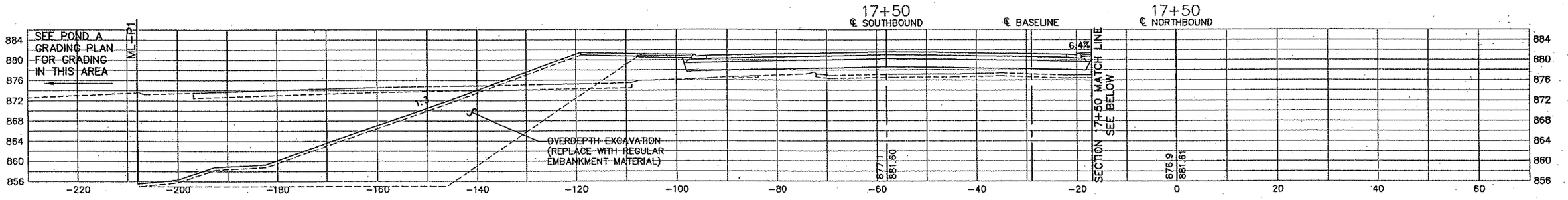
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

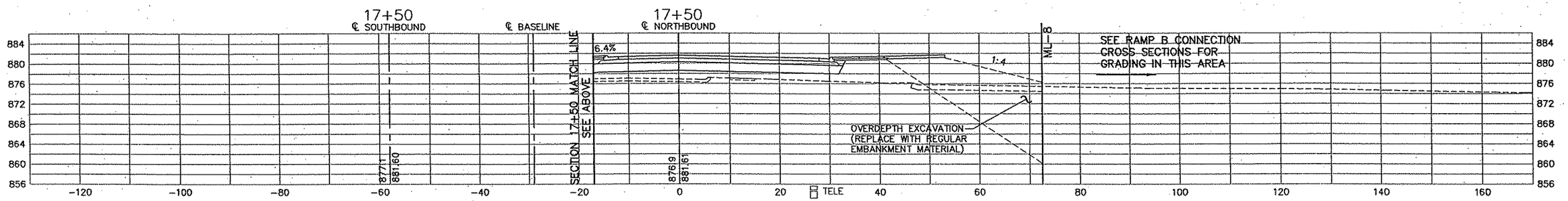
SHEET NO. 538 / 681

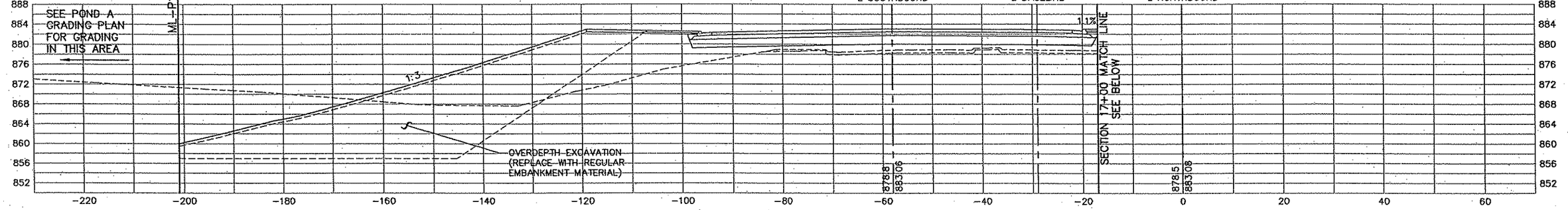
11 OF

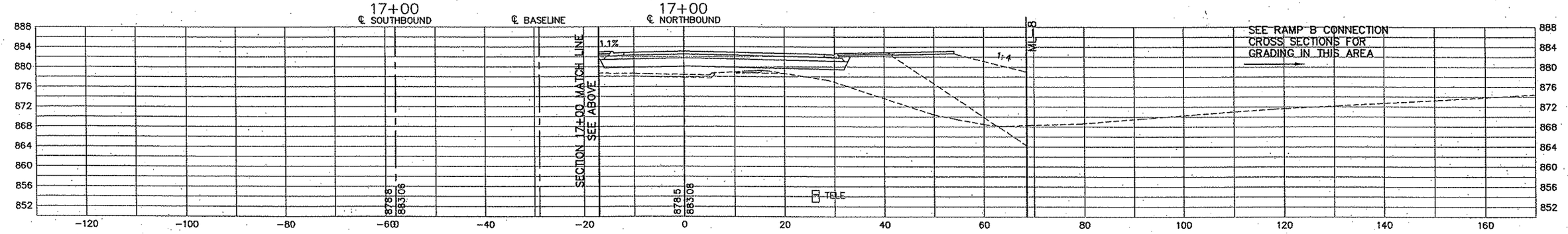
PLOT DATE: Jan 07 10:31am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-11.dwg

Xref'd Drawings
2-HNSN-ONTY
-hans-blvd
c34bdr









REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-12
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

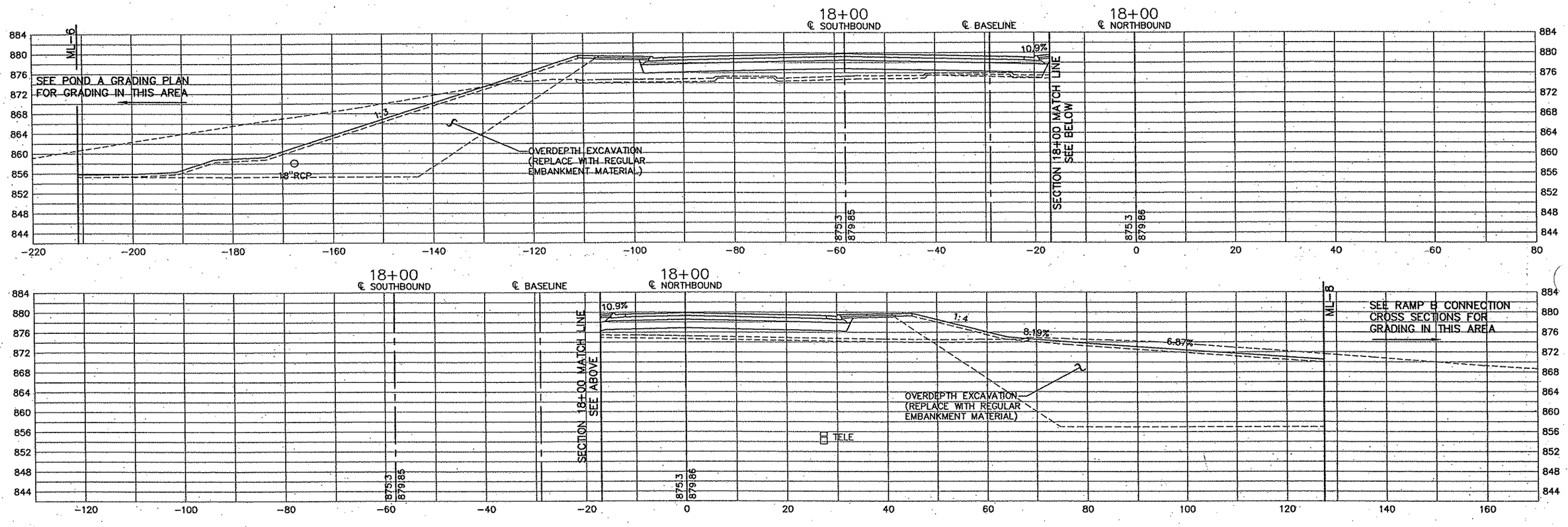
CROSS SECTIONS
STATION 17+00.00 TO STATION 17+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 539 / 681

PLOT DATE: Jan 07 10:31am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-12.dwg

Xref'd Drawings
2-HNSN-QNTY
-hans-blvd
c34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-13
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

CROSS SECTIONS
STATION 18+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 540 / 681

PLOT DATE: Jan 07 10:32am DISK FILE NAME: (16:1) R:\33889\338890042\PLAN-SHT\CROSS-SECTIONS\04-13.dwg

Xref'd Drawings
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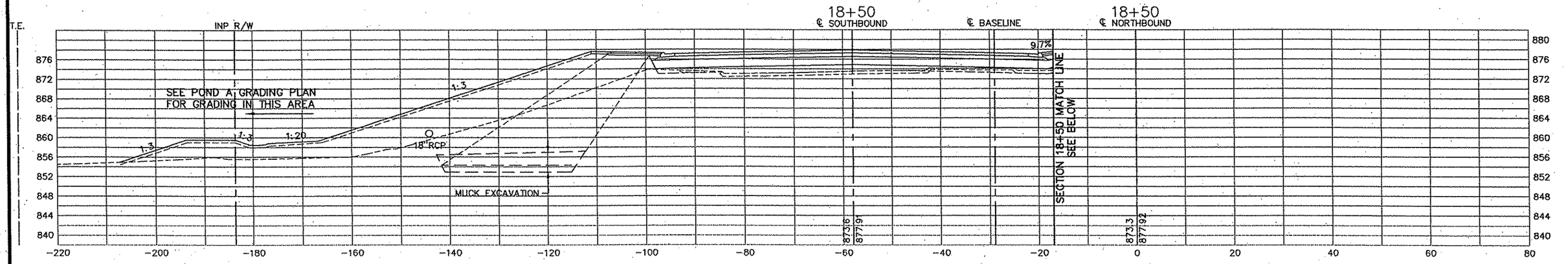
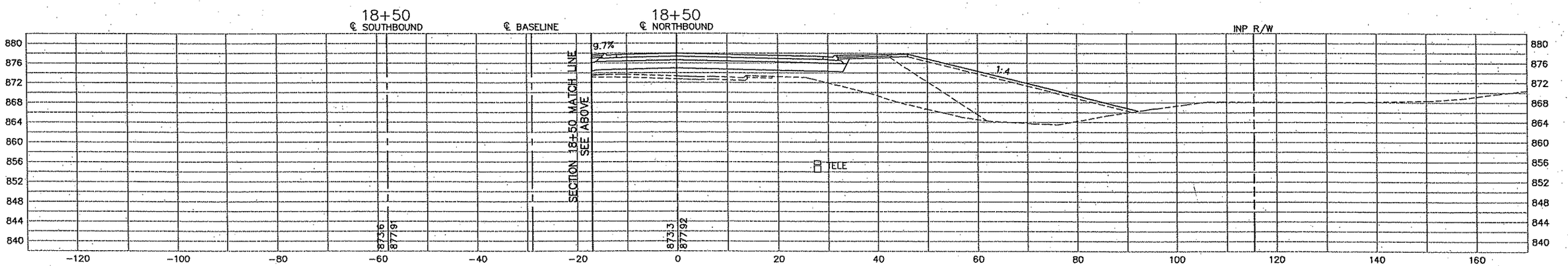
-hans-blvd
34bdr





REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-14
DATE: JANUARY 8, 2007

URS
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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KAREL KEEL
DATE: 1/8/2007 MN. LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

CROSS SECTIONS
STATION 18+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 541 / 681

PLOT DATE: Jan 07 10:32am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-14.dwg

Xref'd Drawings
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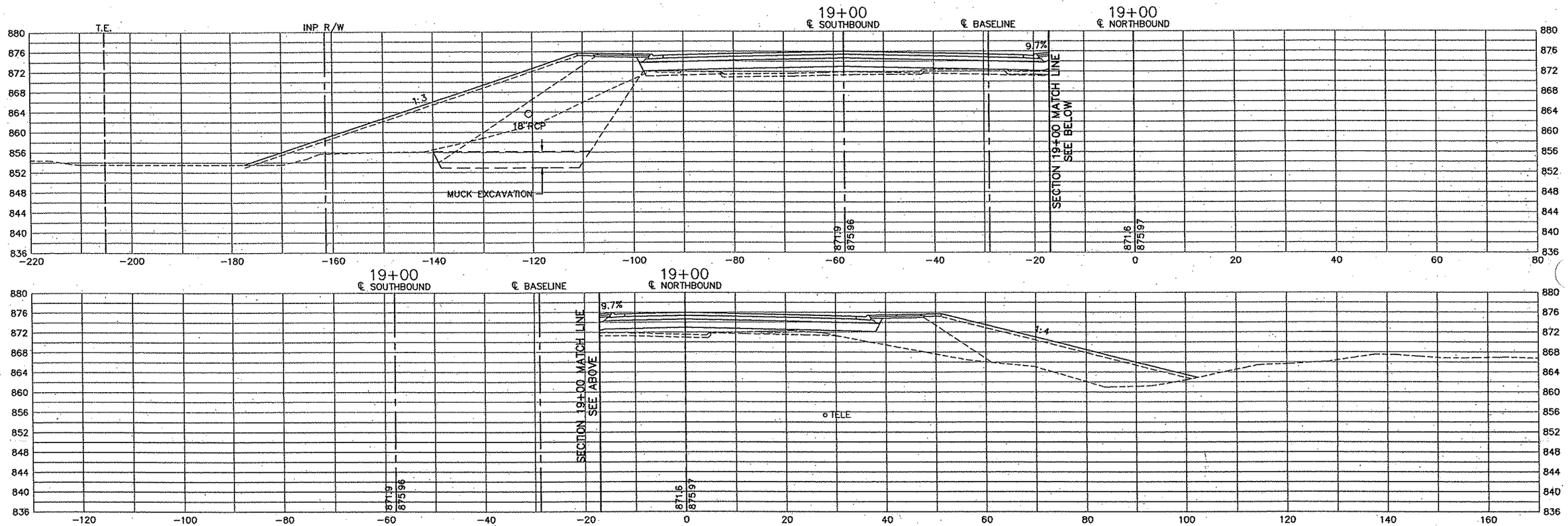
-hans-blvd
c34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-15
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

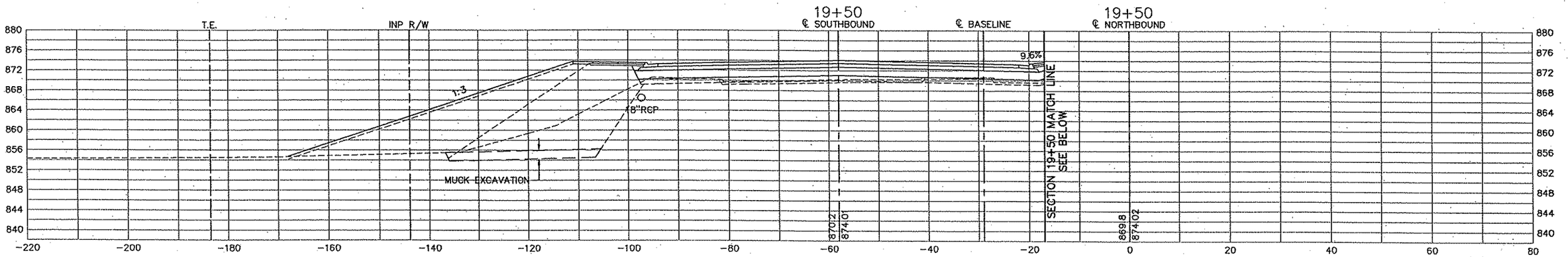
HANSON BOULEVARD

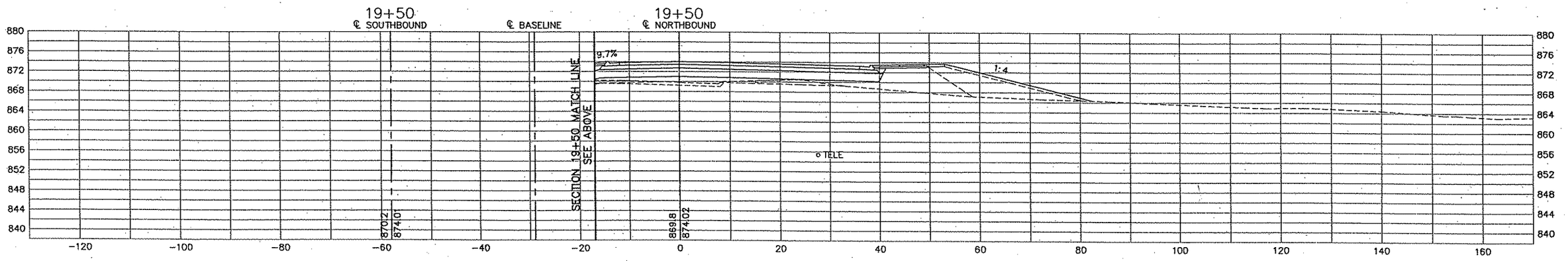
CROSS SECTIONS
STATION 19+00.00

CITY PROJECT 01-31	S.P. 0215-59	SHEET NO. 542 / 681
S.P. 02-678-17	S.P. 02-611-29	
	S.P. 114-020-28	
	S.P. 114-010-14	

PLOT DATE: Jan 07 10:32am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-15.dwg

Xref'd Drawings
2-HNSN-QNTY
-hans-blvd
(34bdr





PLOT DATE: Jan 07 10:32am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-16.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: PMJ	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: CSHN-16
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

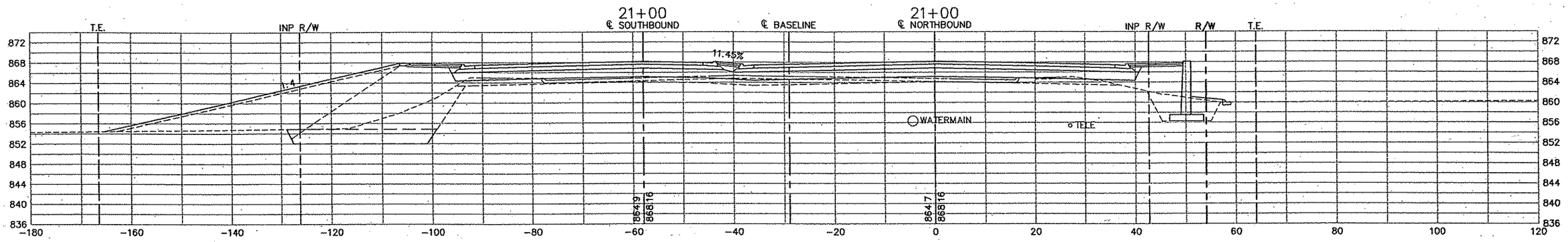
HANSON BOULEVARD

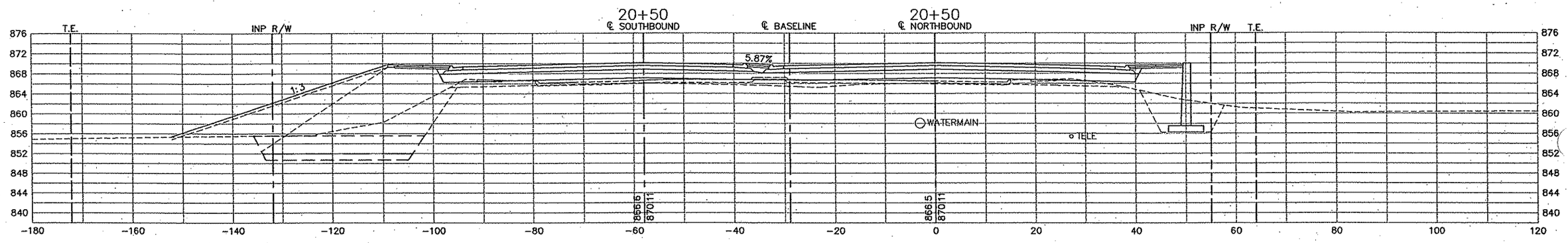
CROSS SECTIONS
STATION 19+50.00

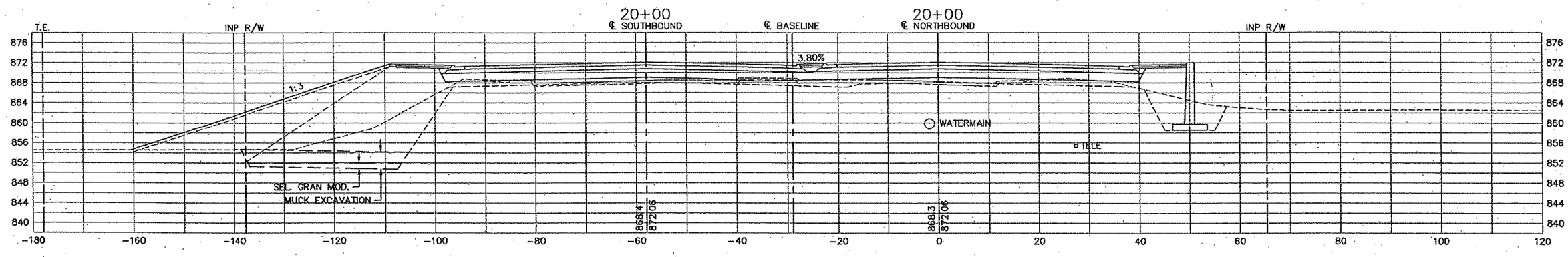
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 543 / 681

Xref'd Drawings
2-HNSN-QNTY
-hans-blvd
c34bdr







REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY:	PMJ
DESIGN BY:	PMJ
CHKED. BY:	SAW
DWG. NAME:	CSHN-17
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

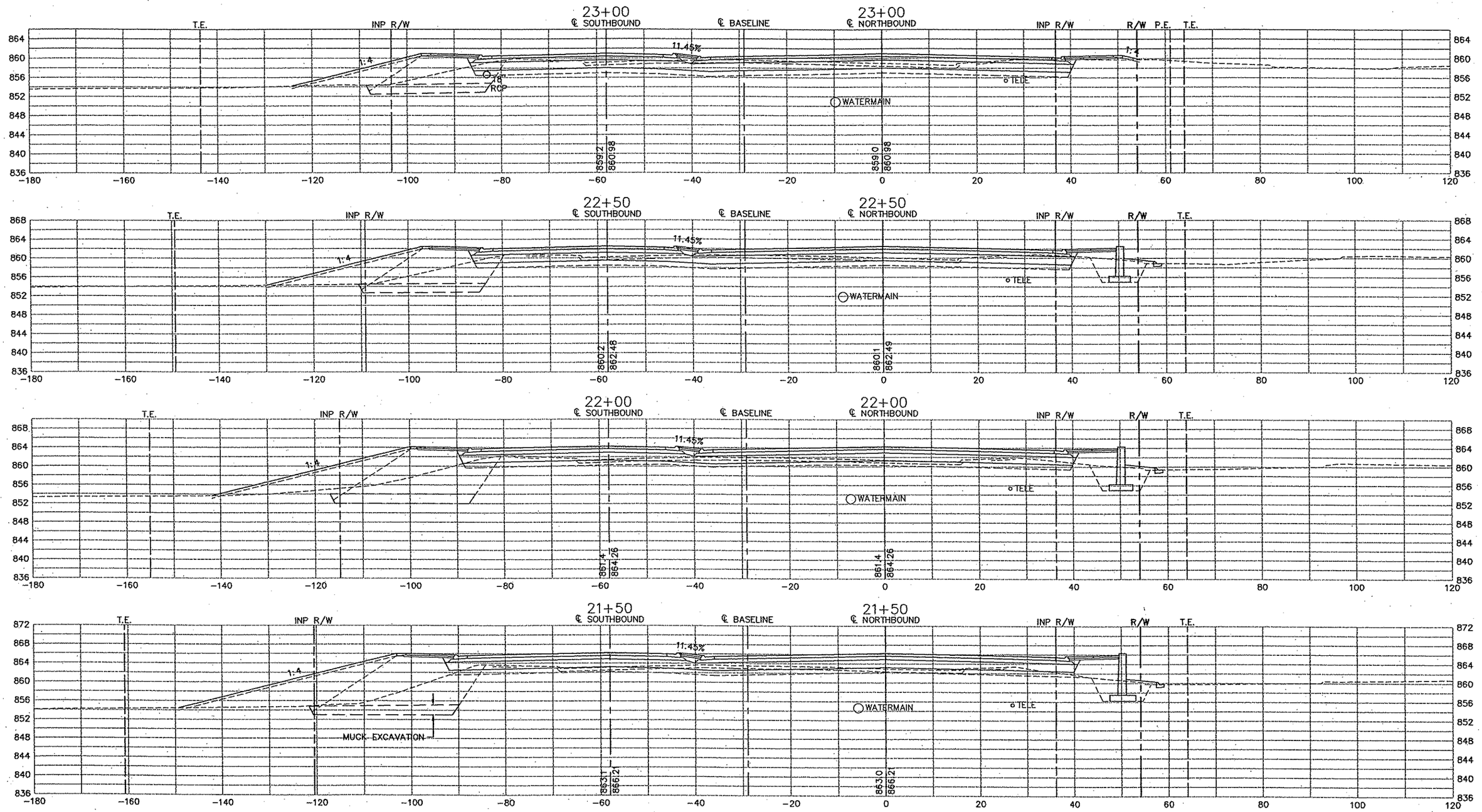
CROSS SECTIONS
STATION 20+00.00 TO STATION 21+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 544 / 681

PLOT DATE: Jan 07 10:32am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-17.dwg

Xref'd Drawings
2-HNSN-QNTY
-hans-blvd
34bdr



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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-18
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

CROSS SECTIONS
STATION 21+50.00 TO STATION 23+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 545 / 681

Xref'd Drawings
-HNSN-QNTY
-hans-blvd
-34bdr

PLOT DATE: Jan ... 07 10:32am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04 ... -19.dwg

19 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042	
DRAWN BY: PMJ	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: CSHN-19
DATE: JANUARY 8, 2007	

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

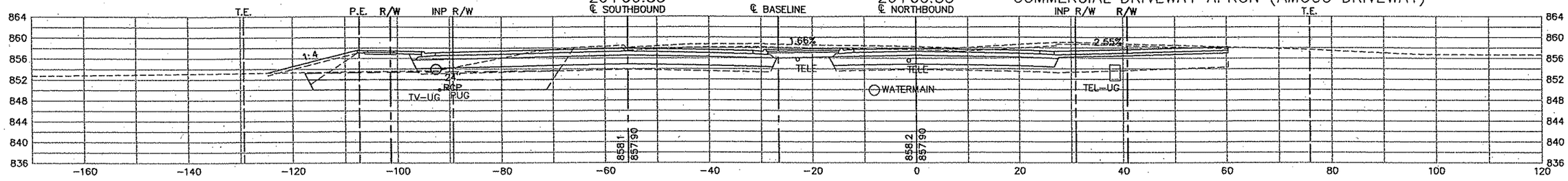
TH 10/HANSON BOULEVARD INTERCHANGE
HANSON BOULEVARD
CROSS SECTIONS
STATION 23+50.00 TO STATION 25+00.00

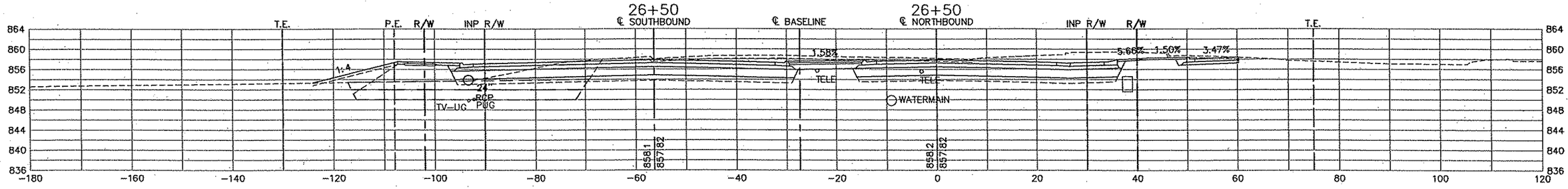
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

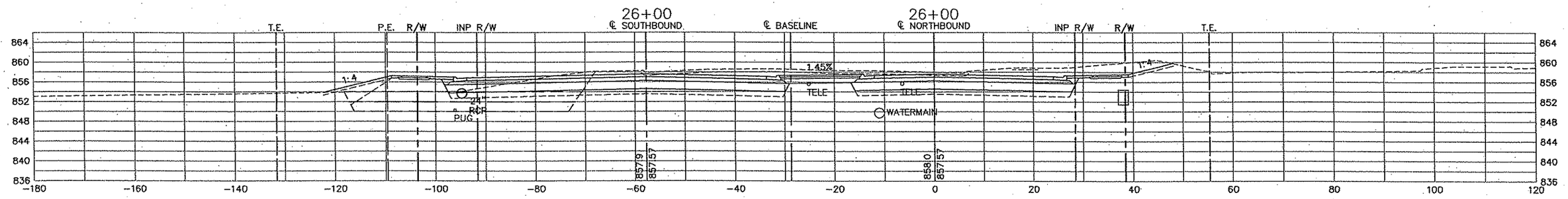
SHEET NO. 546 / 681

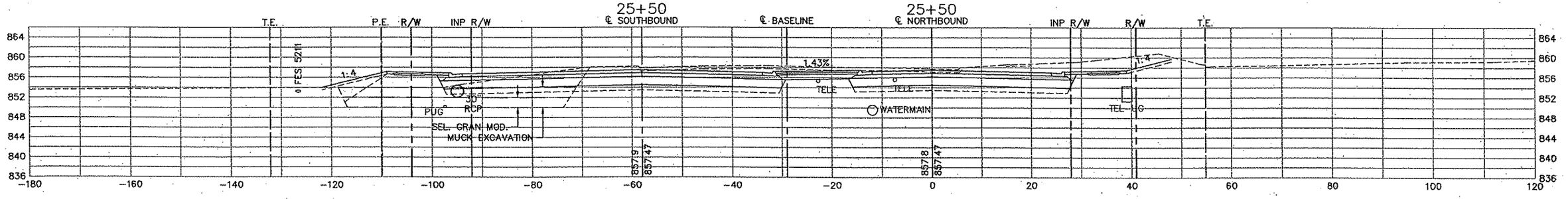
Xref'd Drawings
)--HNSN--QNTY
-hans-blvd
(34bdr

COMMERCIAL DRIVEWAY APRON (AMOCO DRIVEWAY)









REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: PMJ	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: CSHN-20
DATE:	JANUARY 8, 2007

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Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

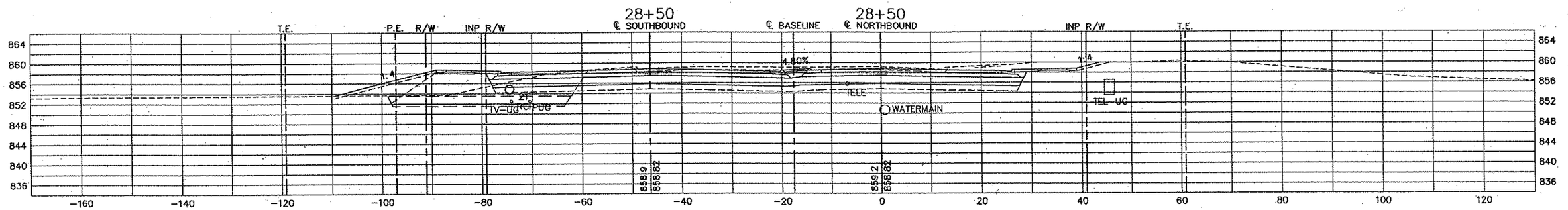
CROSS SECTIONS
STATION 25+50.00 TO STATION 26+66.33

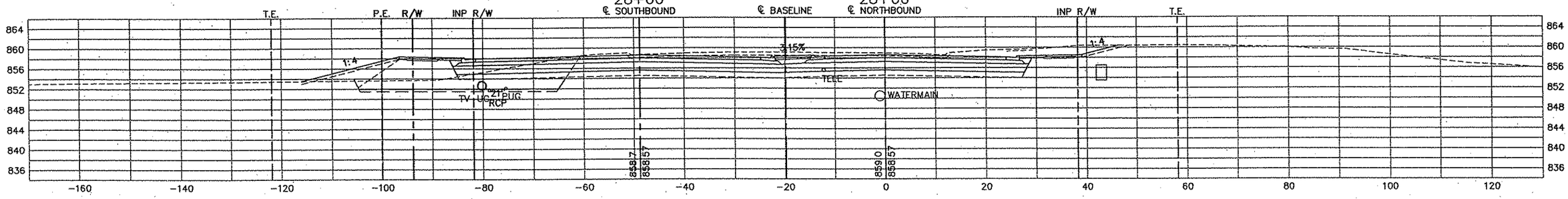
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

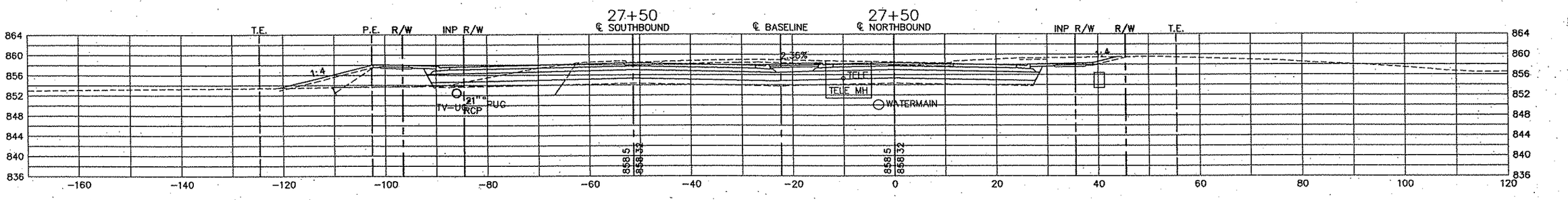
SHEET NO. 547 / 681

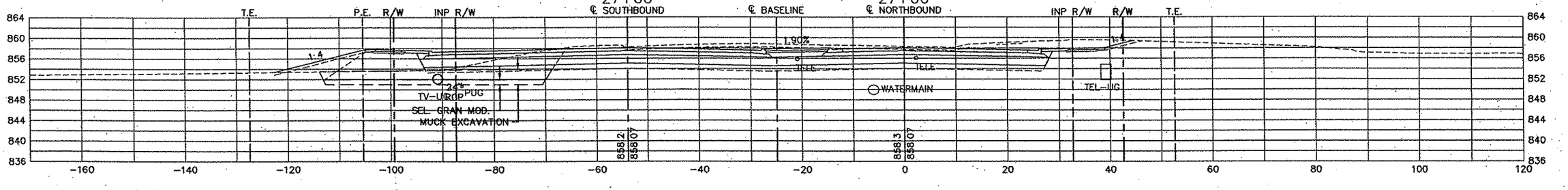
PLOT DATE: Jan 07 10:32am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-20.dwg

Xref'd Drawings
-HNSN-QNTY
-hans-blvd
34bdr









PLOT DATE: Jan 07 10:32am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\GROSS-SECTIONS\04-21.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-21
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

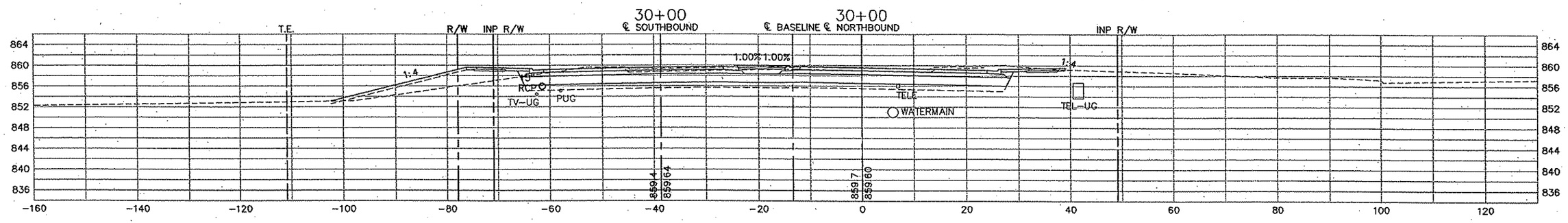
HANSON BOULEVARD

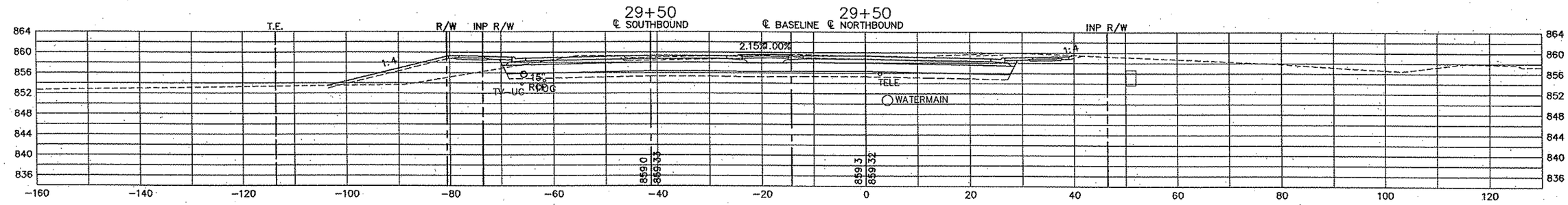
CROSS SECTIONS
STATION 27+00.00 TO STATION 28+50.00

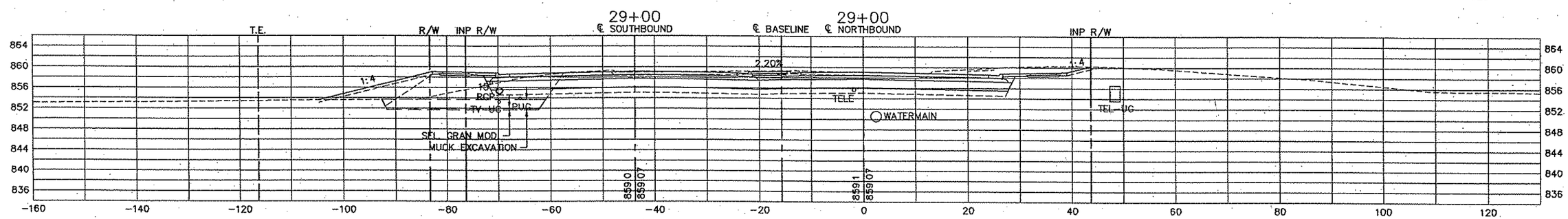
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 548

Xref'd Drawings
2-HNSN-QNTY
-hans-blvd
i34bdr







REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSHN-22
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

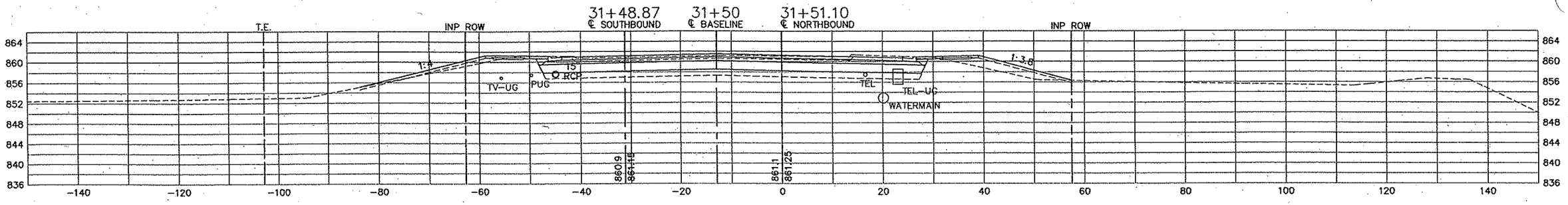
CROSS SECTIONS
STATION 29+00.00 TO STATION 30+00.00

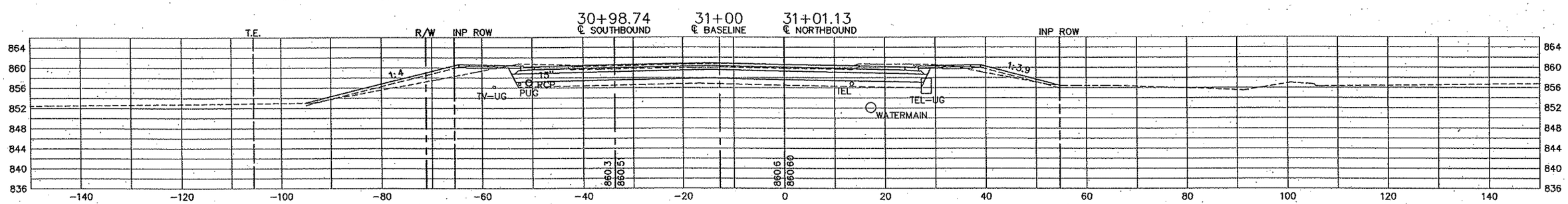
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

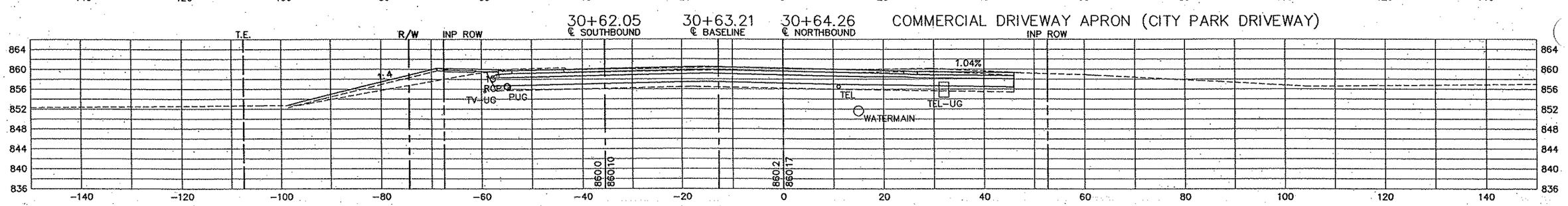
SHEET NO. 549 / 681

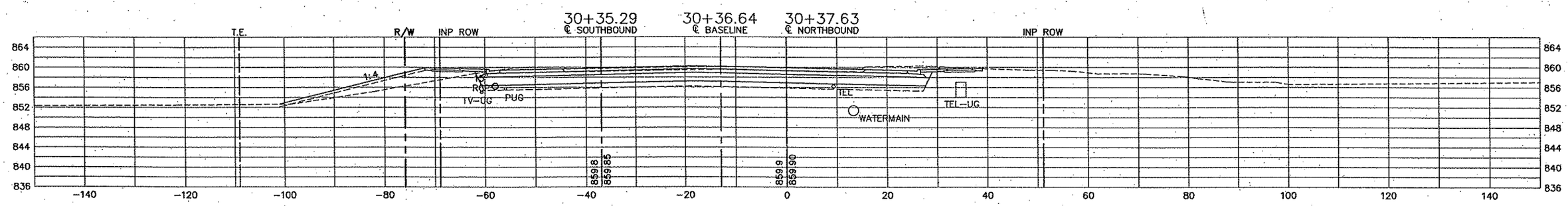
PLOT DATE: Jan 07 10:32am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-22.dwg

Xref'd Drawings
?—HNSN—QNTY
-hans-blvd
:34bdr









REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-23
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HANSON BOULEVARD

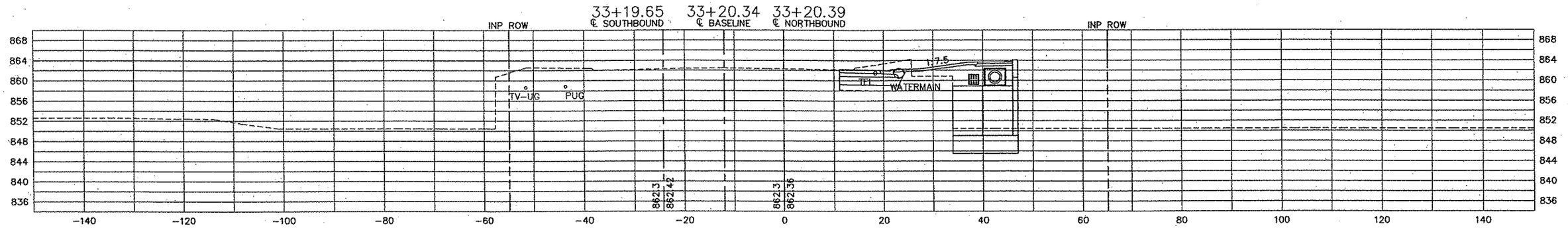
CROSS SECTIONS
STATION 30+37.63 TO STATION 31+51.10

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

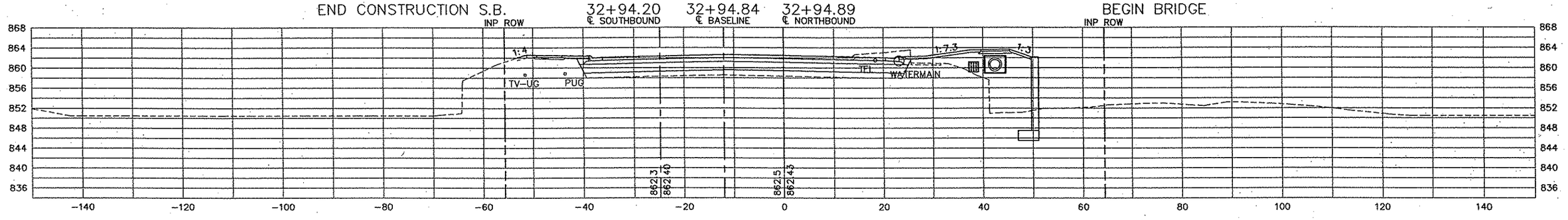
SHEET NO. 550 / 681

PLOT DATE: Jan 07 10:32am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-23.dwg

Xref'd Drawings
!—HNSN—QNTY
·hans—blvd
·34bdr



END CONSTRUCTION S.B.



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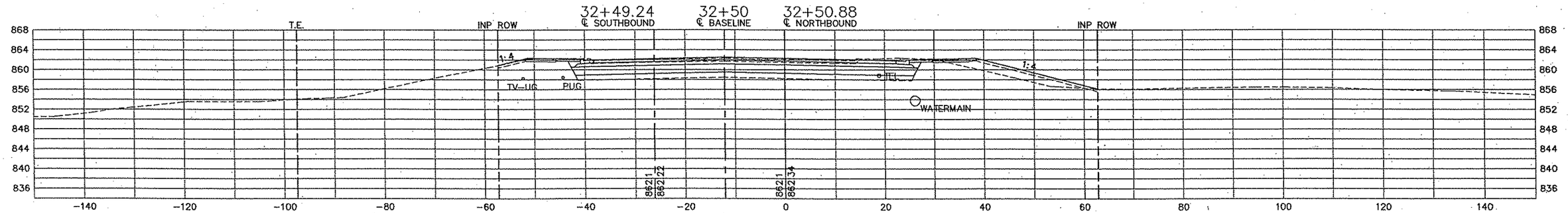
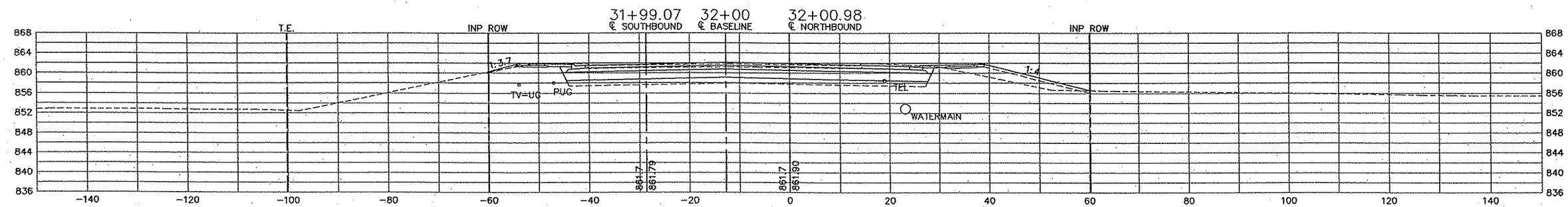




PLOT DATE: Jan 07 10:33am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-24.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-24
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

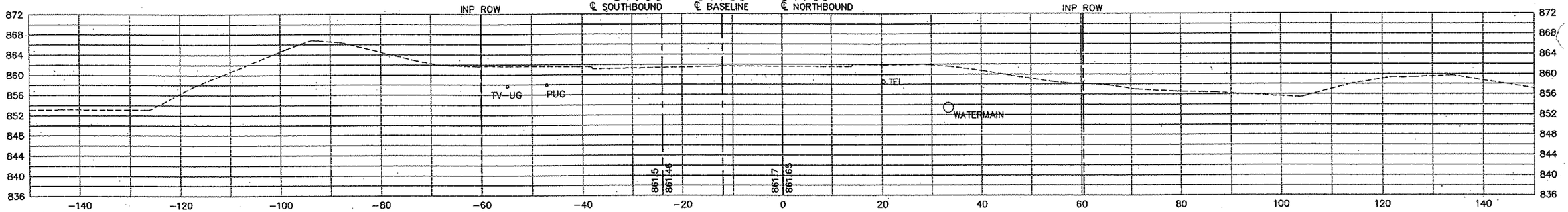
HANSON BOULEVARD

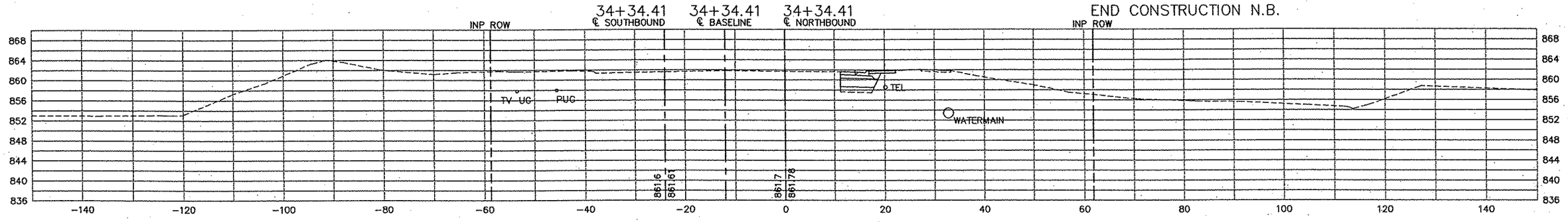
CROSS SECTIONS
STATION 32+00.98 TO STATION 33+20.39

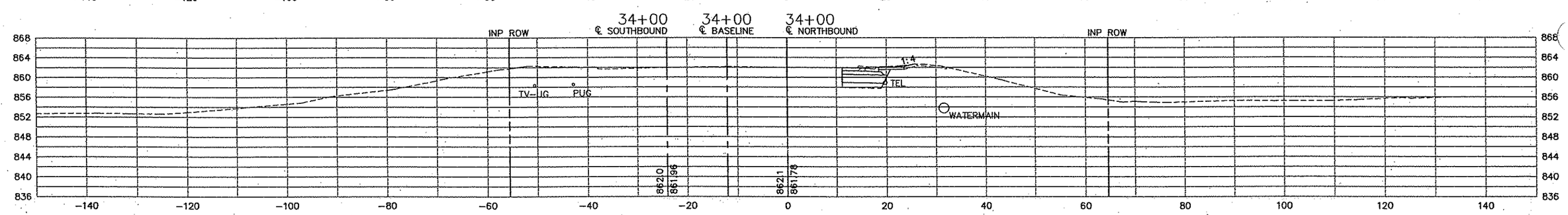
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

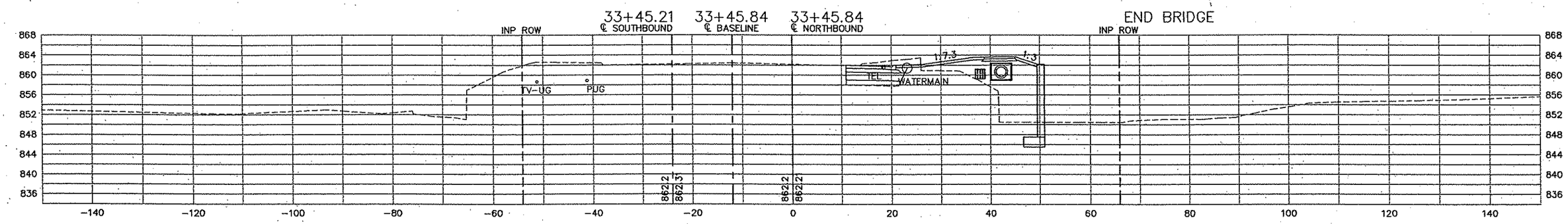
SHEET NO. 551 / 681

Xref'd Drawings
:—HNSN—QNTY
·hans—blvd
:34bdr









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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHN-25
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

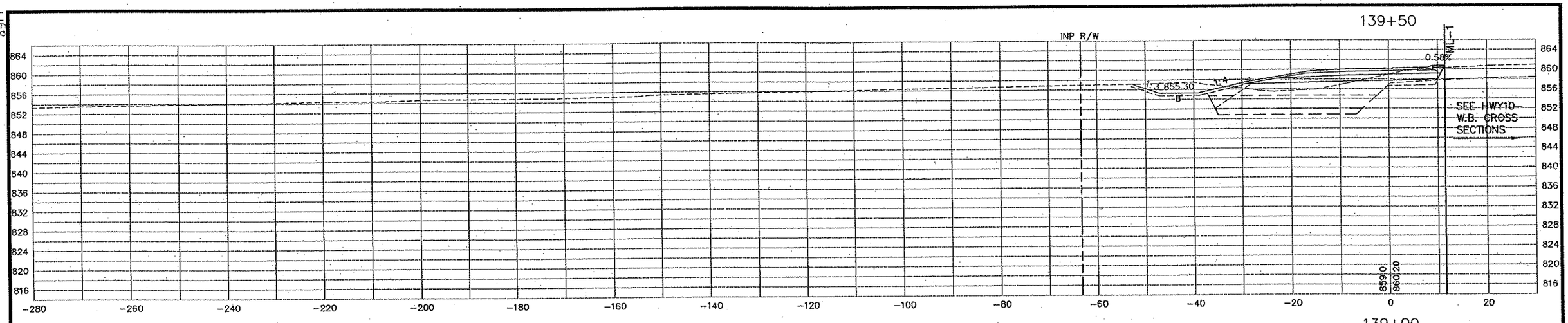
TH 10/HANSON BOULEVARD INTERCHANGE

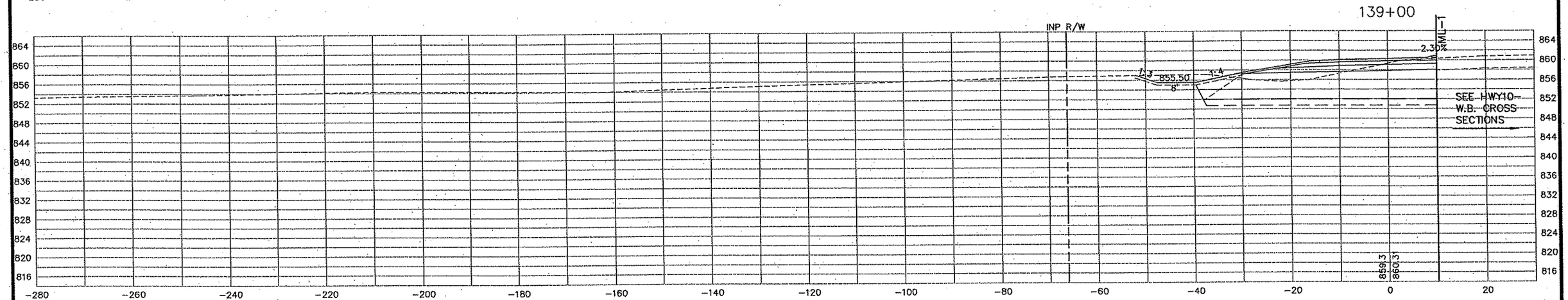
HANSON BOULEVARD

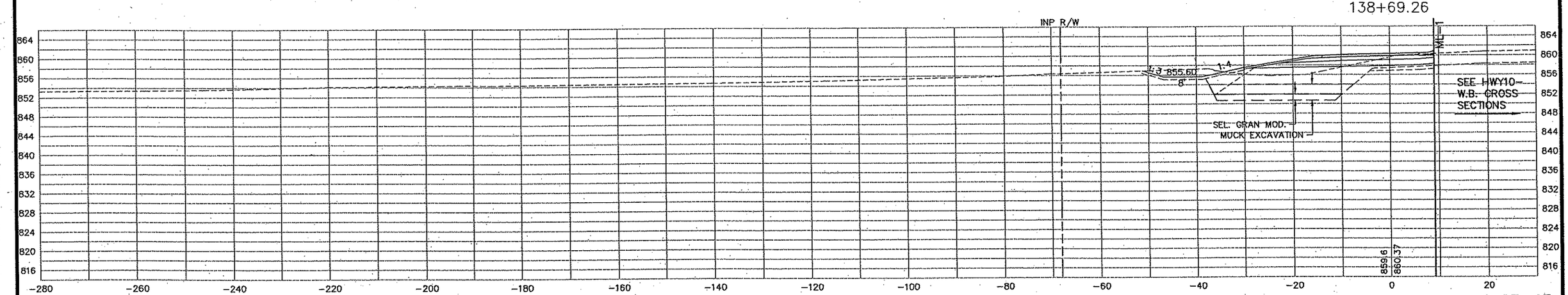
CROSS SECTIONS
STATION 33+45.84 TO STATION 34+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

Xref'd Drawings
:--RAMPA--QNTY
ramp-A--REV3
34bdr







REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRA-01
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP A

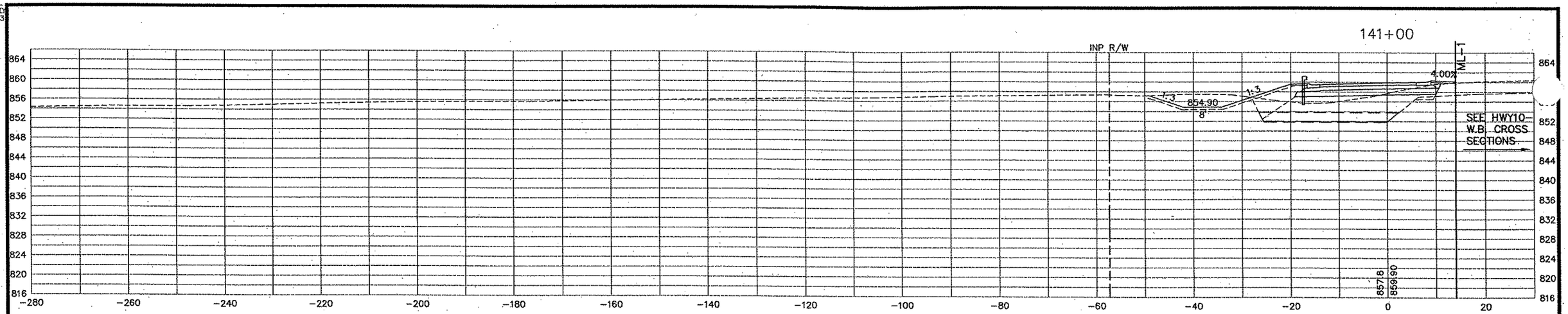
CROSS SECTIONS
STATION 138+69.26 TO STATION 139+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 553 / 681

PLOT DATE: Jan J07 10:39am DISK FILE NAME: (16.1) R:\33889\33689042\PLAN-SHT\CROSS-SECTIONS\04-01.dwg

-ramp-A-REV3
t34bdr



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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRA-02
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

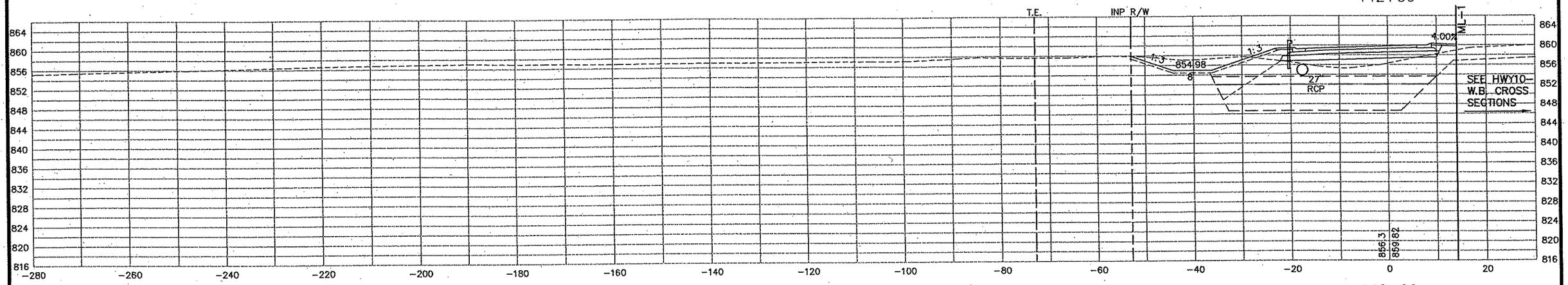
TH 10/HANSON BOULEVARD INTERCHANGE

RAMP A

CROSS SECTIONS
STATION 140+00.00 TO STATION 141+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 554 / 681
2 OF



3 OF 13

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRA-03
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP A

CROSS SECTIONS
STATION 141+50.00 TO STATION 142+50.00

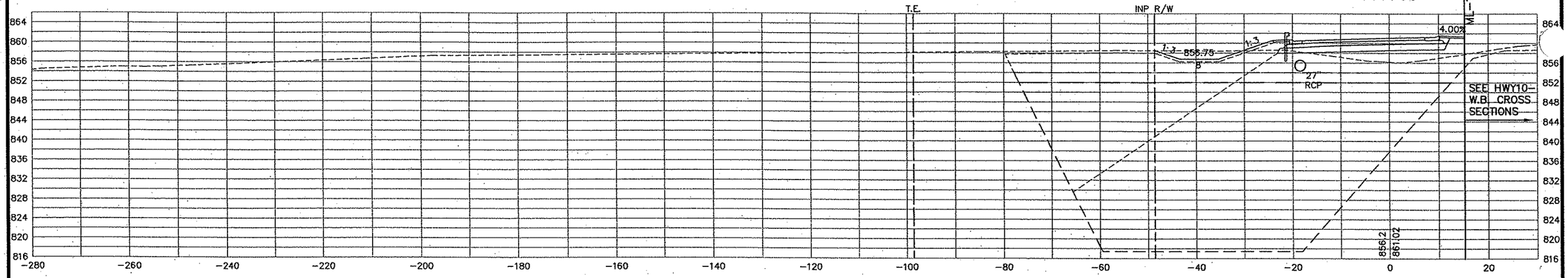
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 555 / 681

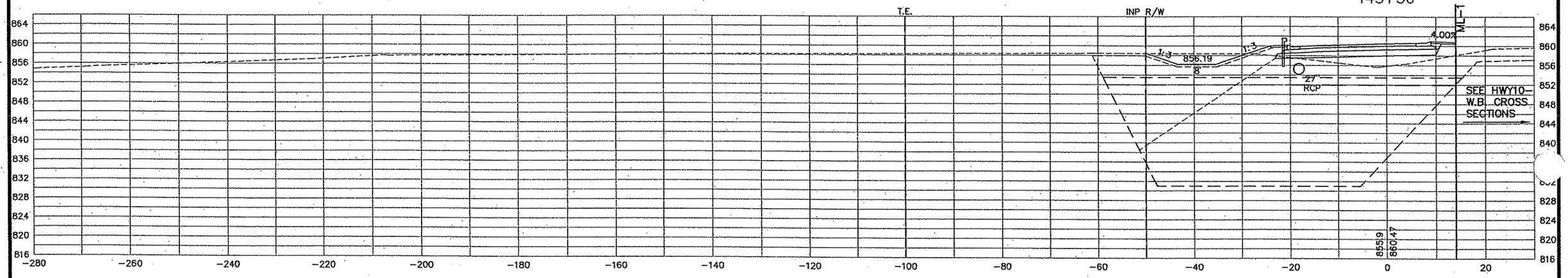
PLOT DATE: Jan 07 10:39am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-03.dwg

ramp-A-REV3
:34bdr

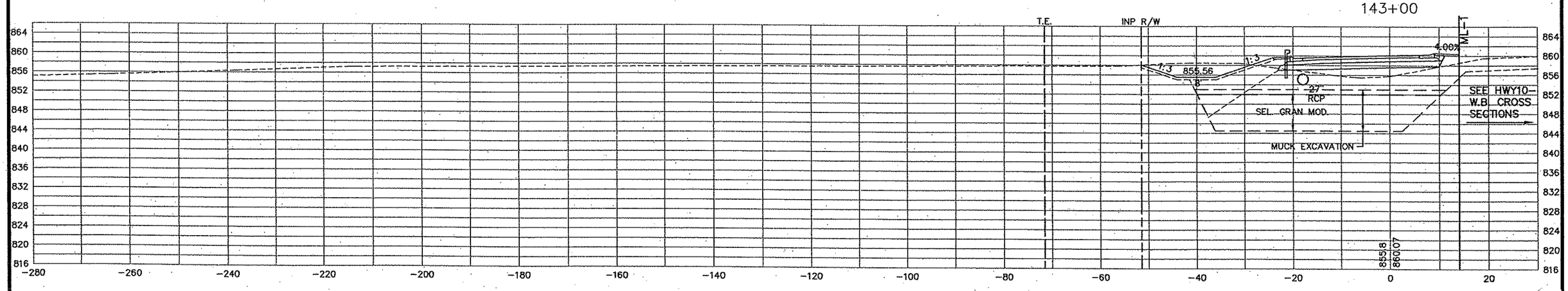
144+00



143+50



143+00



PLOT DATE: Jan 07 10:39am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-04.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRA-04
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP A

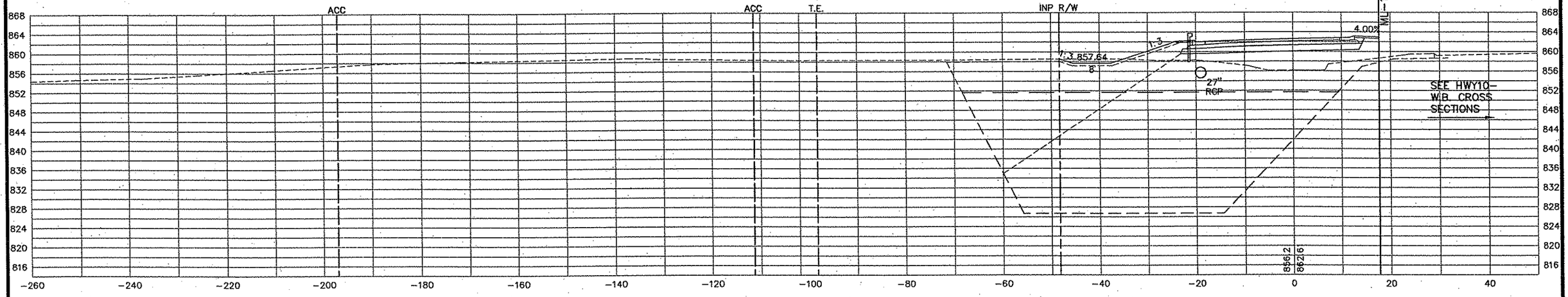
CROSS SECTIONS
STATION 143+00.00 TO STATION 144+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

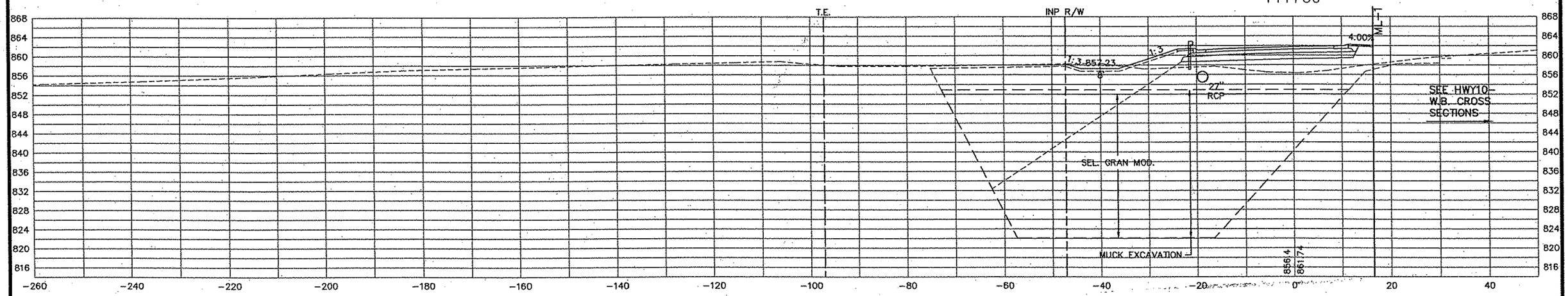
SHEET NO. 556 / 681

-ramp-A-REV3
034bdr

145+00



144+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRA-05
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP A

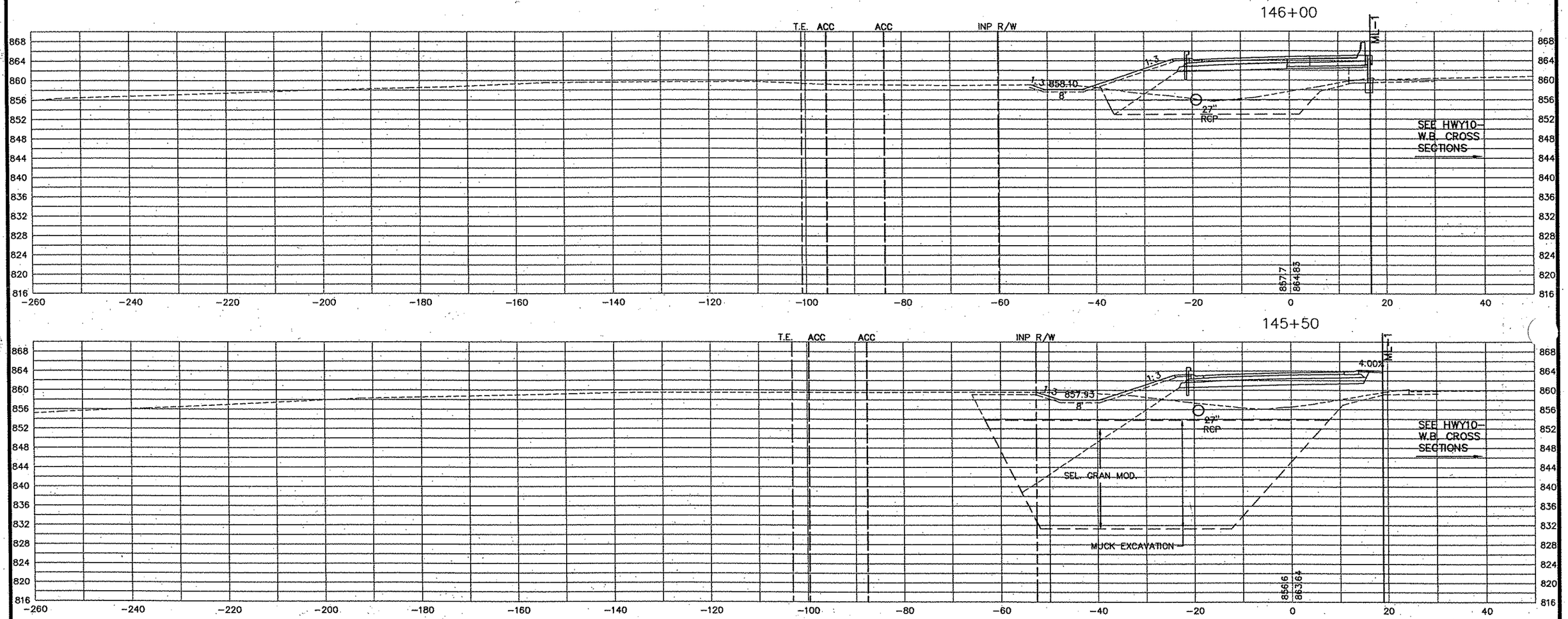
CROSS SECTIONS
STATION 144+50.00 TO STATION 145+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 557 / 681

PLOT DATE: Jan 07 10:39am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-05.dwg

-ramp-A-REV3
:34bdr



PLOT DATE: Jan .07 10:39am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-06.dwg

6 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRA-06
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

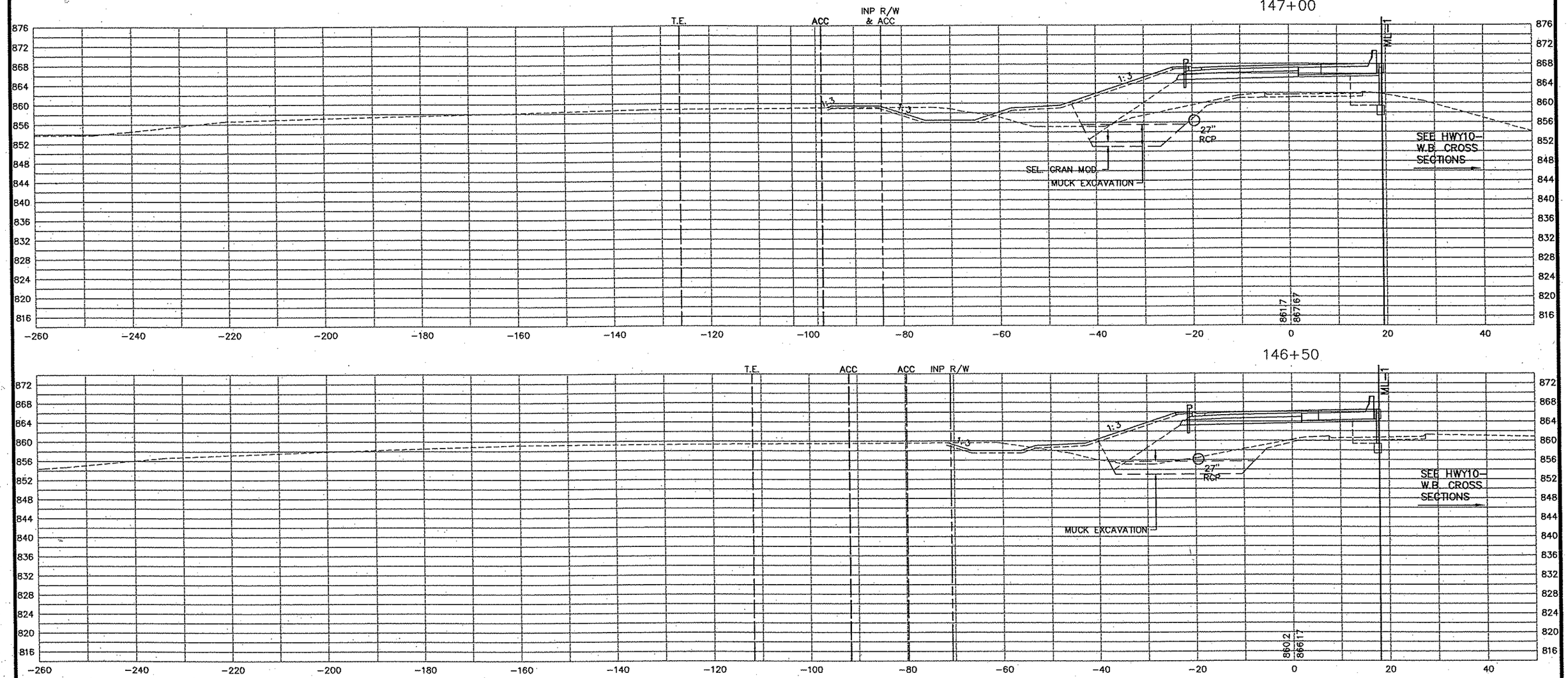
RAMP A

CROSS SECTIONS
STATION 145+50.00 TO STATION 146+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 558 / 681

-ramp-A-REV3
i34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRA-07
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP A

CROSS SECTIONS
STATION 146+50.00 TO STATION 147+00.00

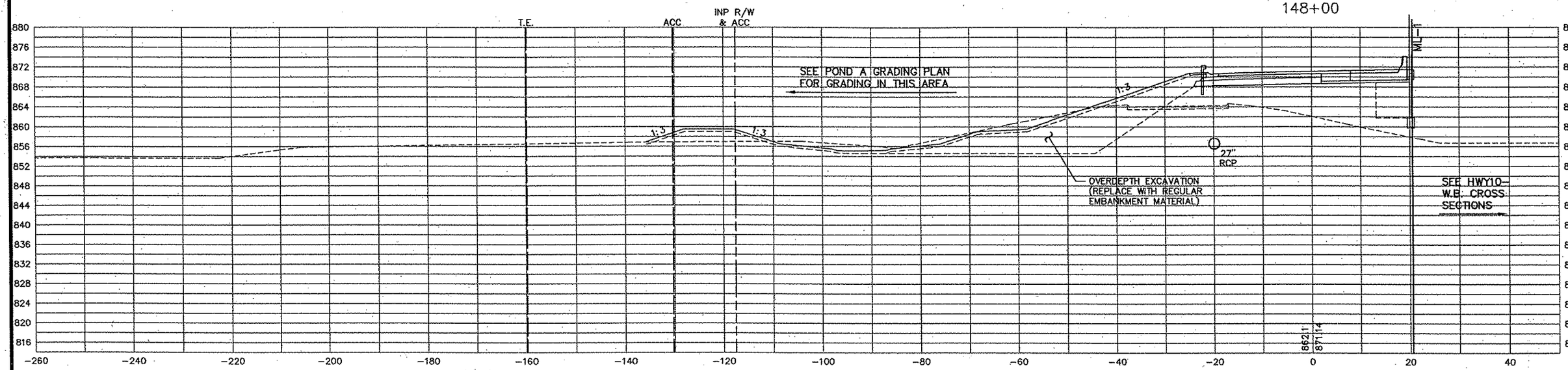
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 559 / 681

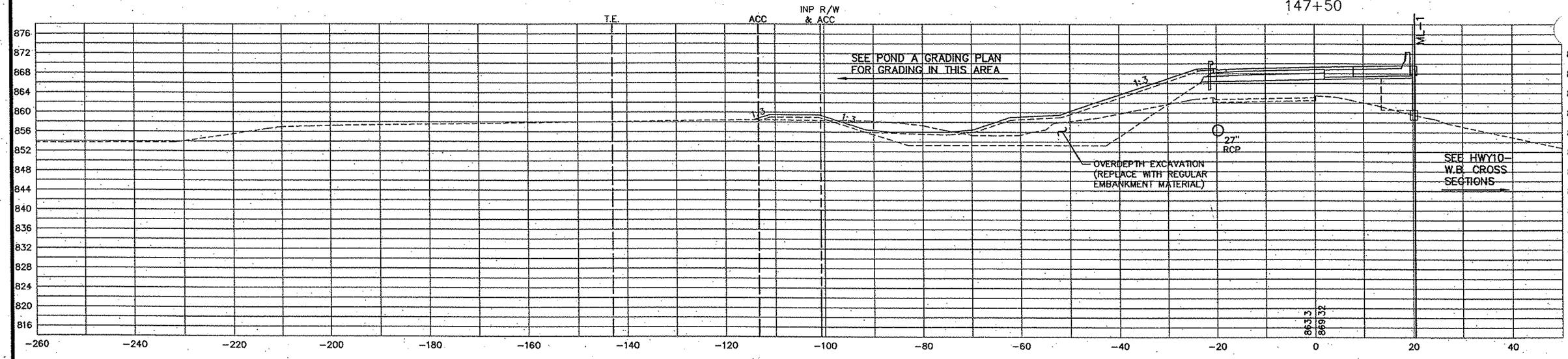
PLOT DATE: Jan 3007 10:39am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-07.dwg

-ramp-A-REV3
«34bdr

148+00



147+50



PLOT DATE: Jan .007 10:39am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04 A-08.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRA-08
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
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612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

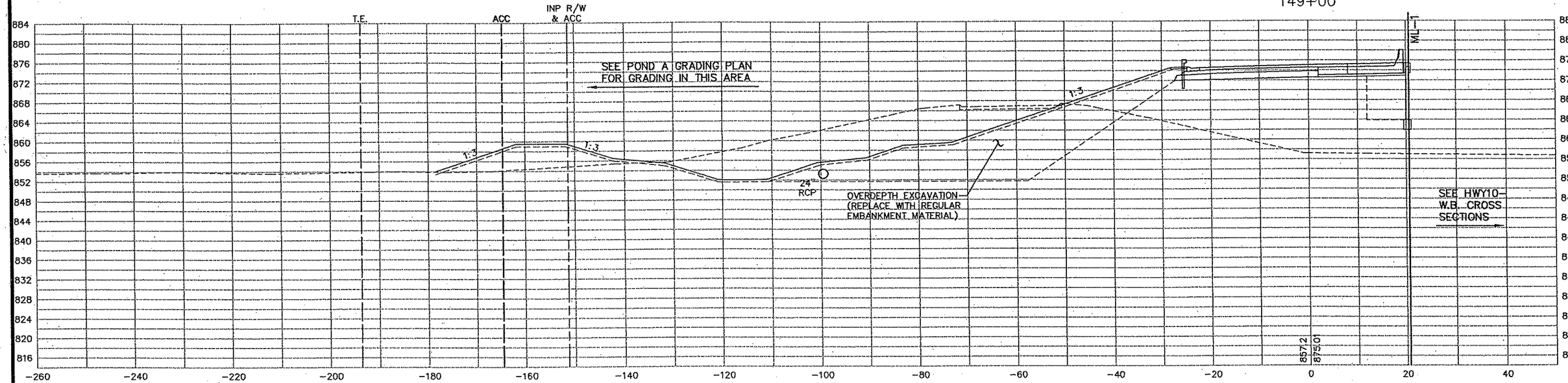
RAMP A

CROSS SECTIONS
STATION 147+50.00 TO STATION 148+00.00

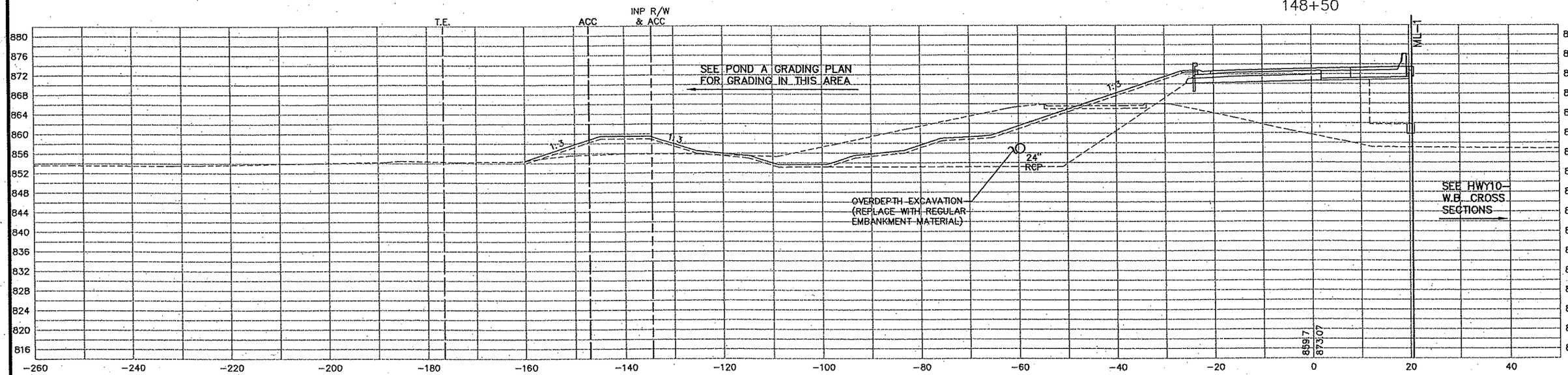
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 560 / 681

149+00



148+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRA-09
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP A

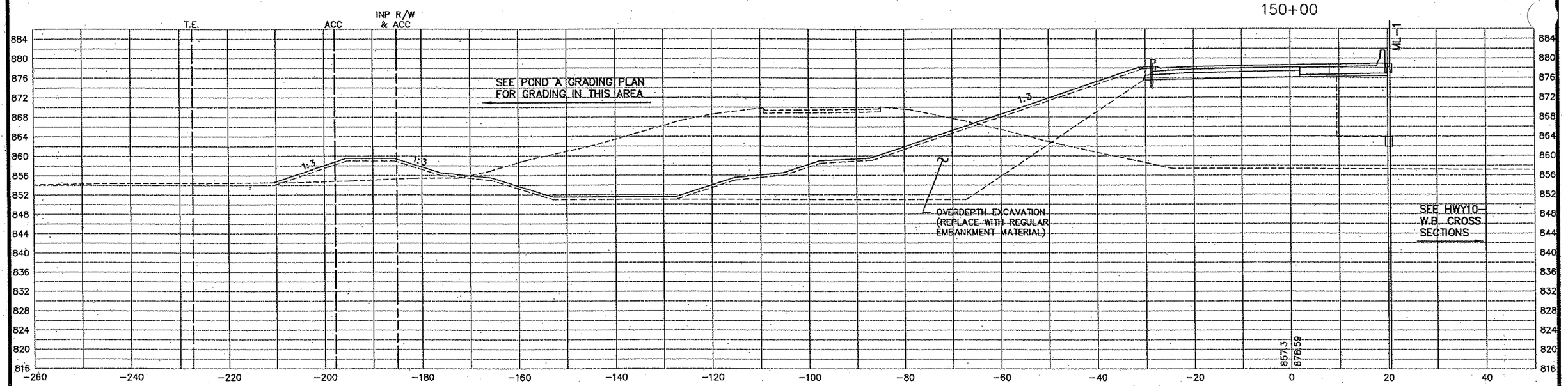
CROSS SECTIONS
STATION 148+50.00 TO STATION 149+00.00

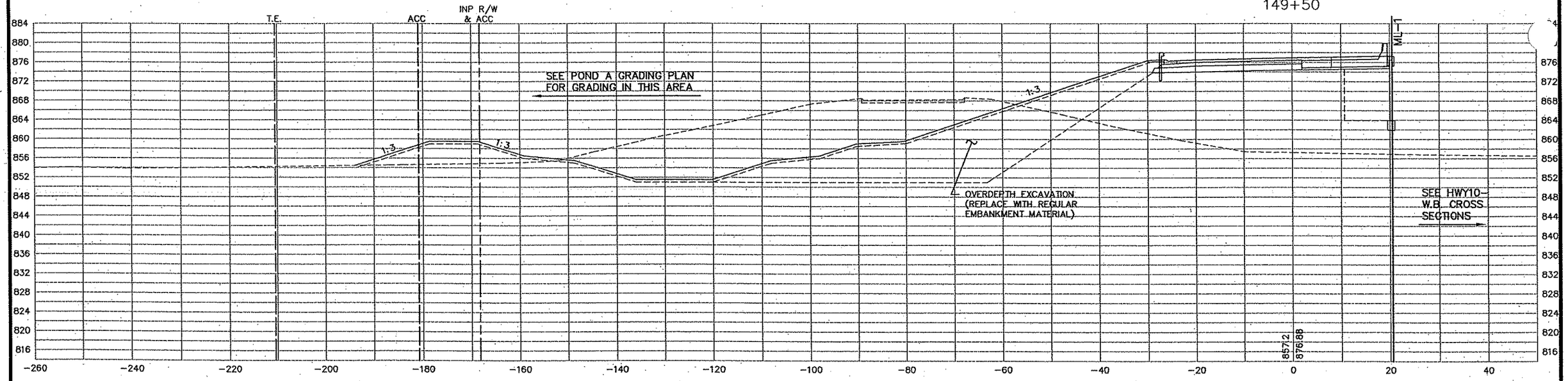
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 561 / 681

PLOT DATE: Jan 07 10:39am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-09.dwg
-ramp-A-REV3
i34bdr

-ramp-A-REV3
:34bdr





REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRA-10
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP A

CROSS SECTIONS
STATION 149+50.00 TO STATION 150+00.00

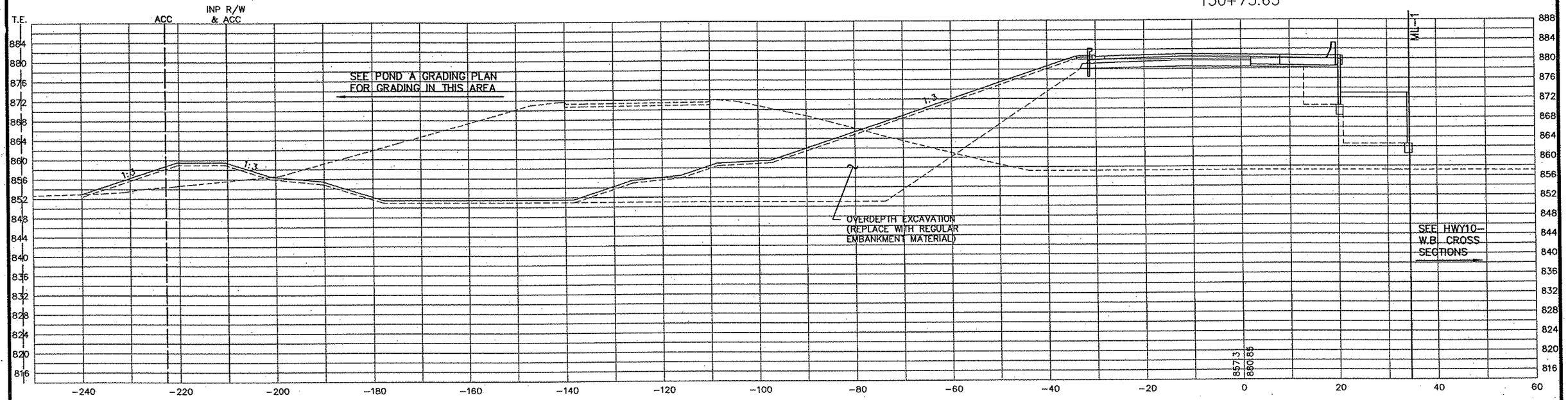
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 562 / 681

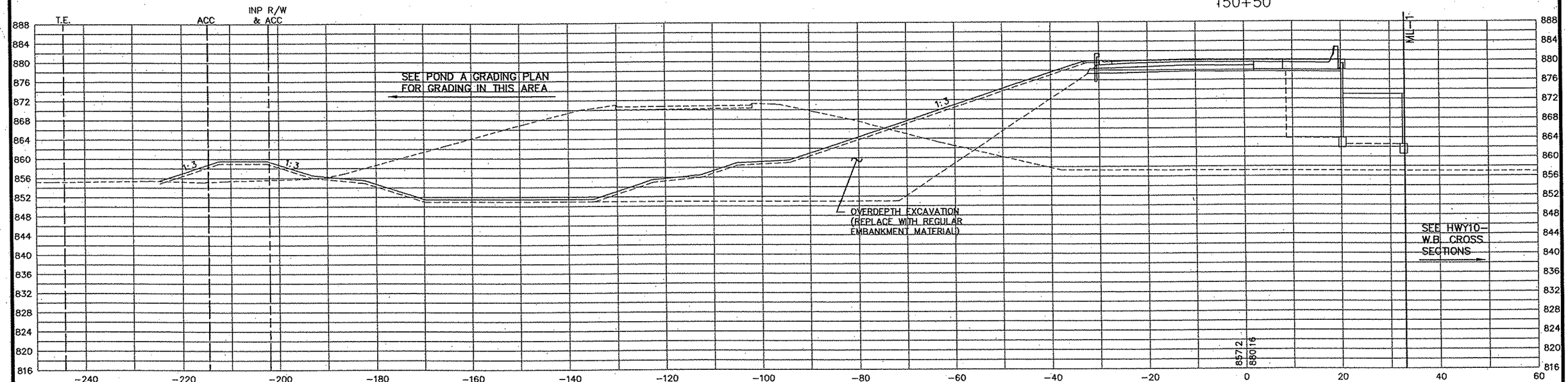
PLOT DATE: Jan 07 10:39am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-10.dwg

ramp-A-REV3
34bdr

150+73.65



150+50



PLOT DATE: Jan 07 10:40am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-11.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: PMJ	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: CSRA-11
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

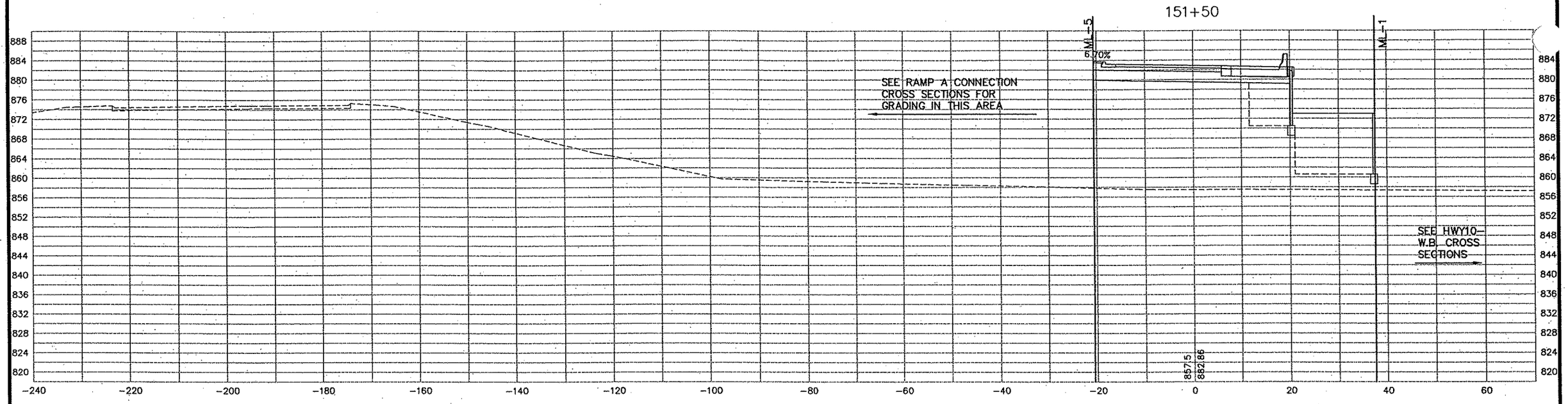
RAMP A

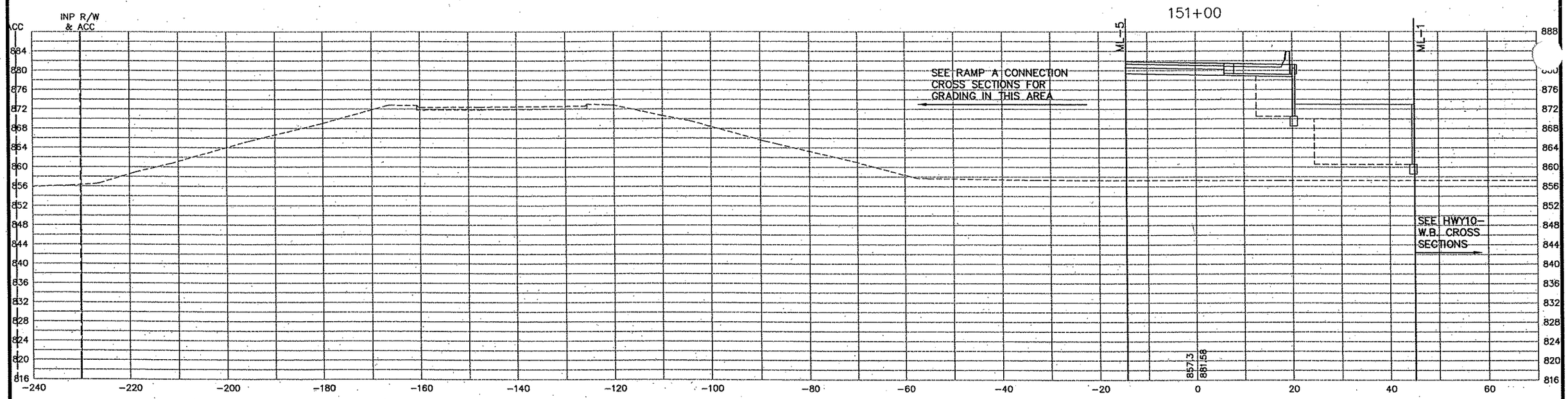
CROSS SECTIONS
STATION 150+50.00 TO STATION 150+73.65

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 563 / 681

-ramp--A--REV3
c34bdr





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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRA-12
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

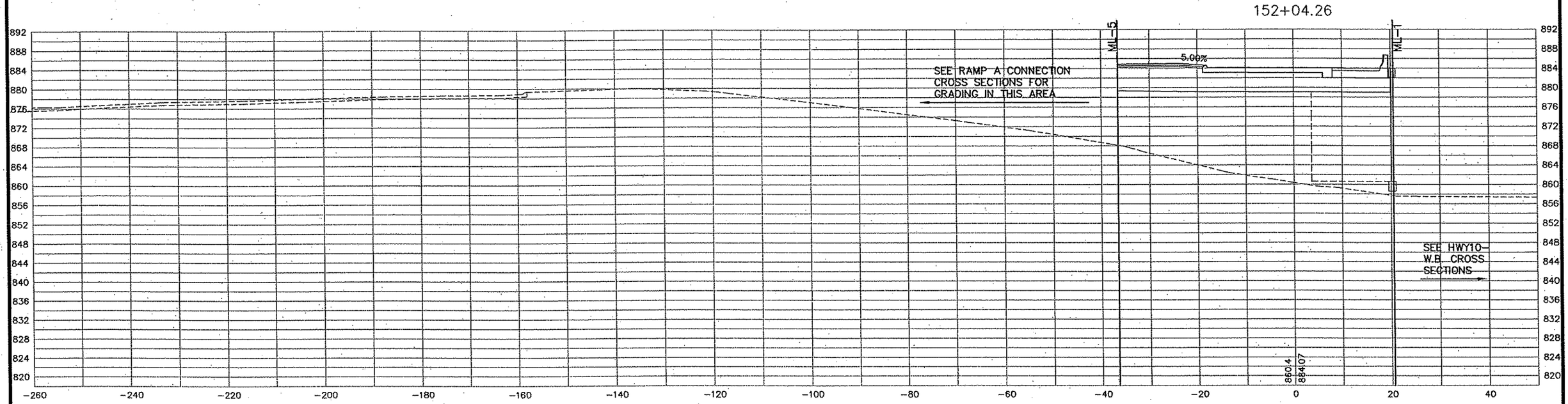
RAMP A

CROSS SECTIONS
STATION 151+00.00 TO STATION 151+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO: 564 / 681

-ramp--A-REV3
c34bdr



PLOT DATE: Jan. 07 10:40am DISK FILE NAME: (16.1) R:\33689\33889042\PLAN-SHT\CROSS-SECTIONS\04-13.dwg

13 OF 13

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRA-13
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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

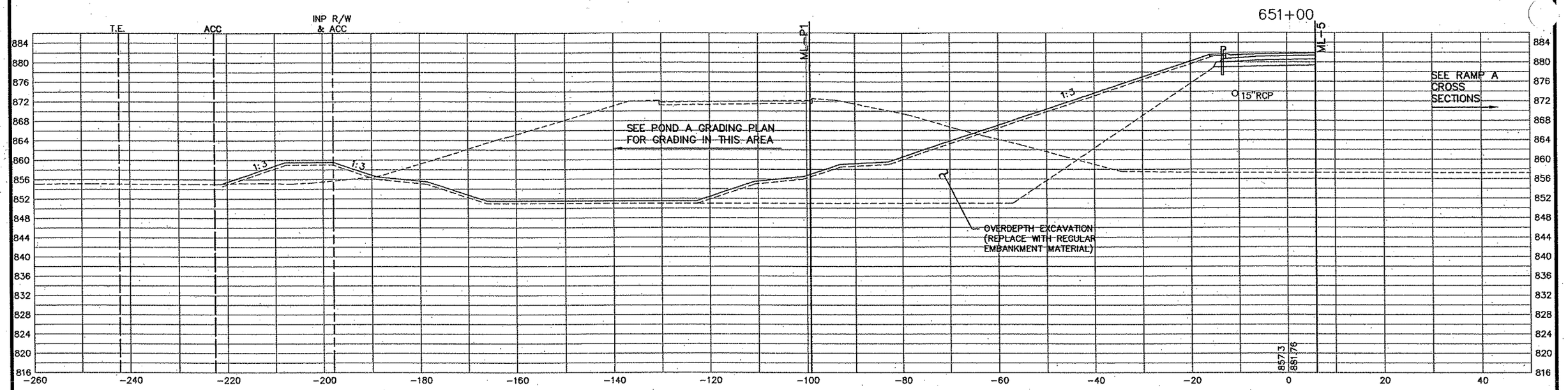
RAMP A

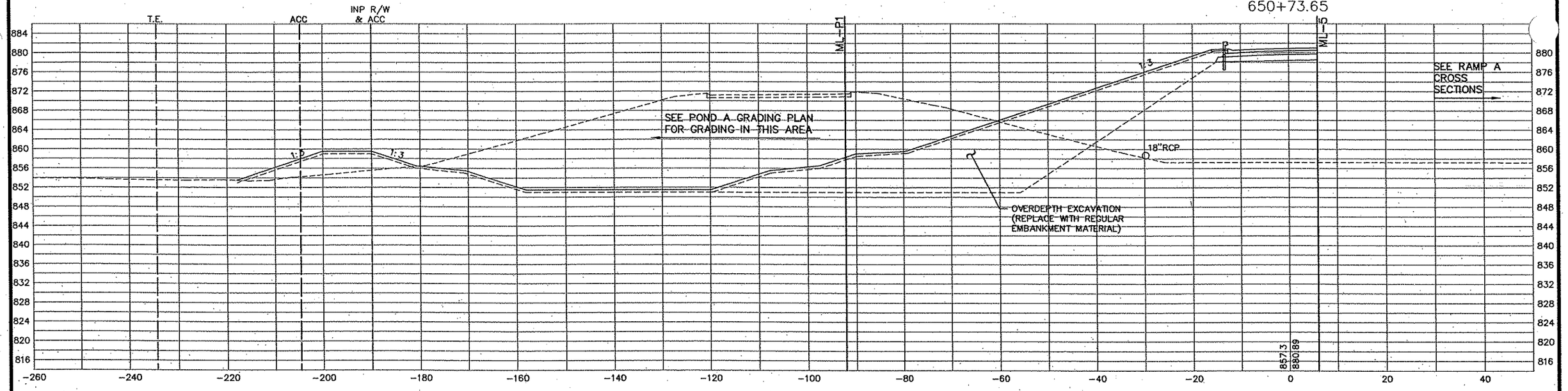
CROSS SECTIONS
STATION 152+04.26

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 565 / 681

-ramp-A-CON-REV3
c34bdr





PLOT DATE: Jan 07 10:40am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-CON-01.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP A CONNECTION

CROSS SECTIONS
STATION 650+73.65 TO STATION 651+00.00

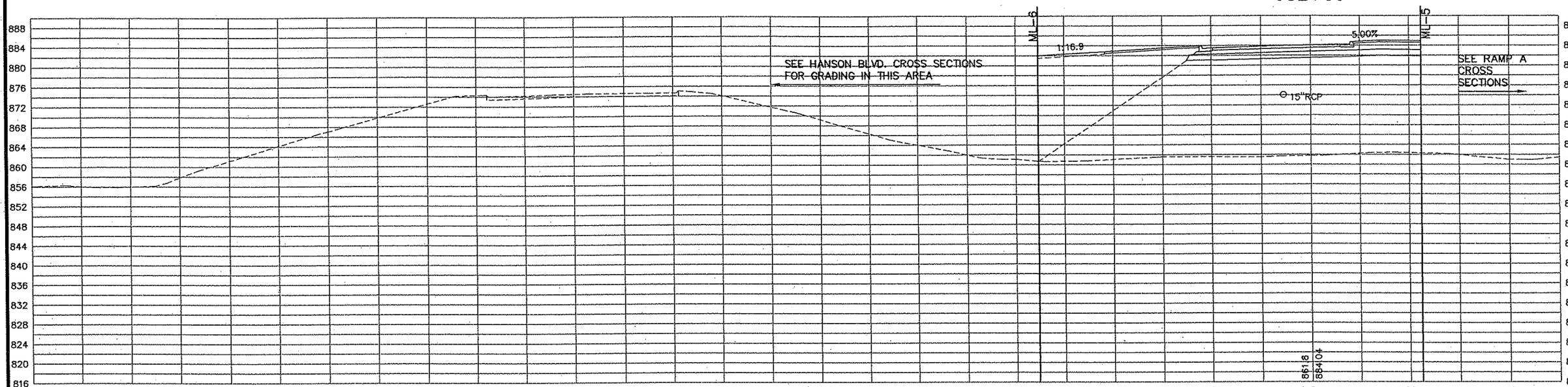
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 566 / 681

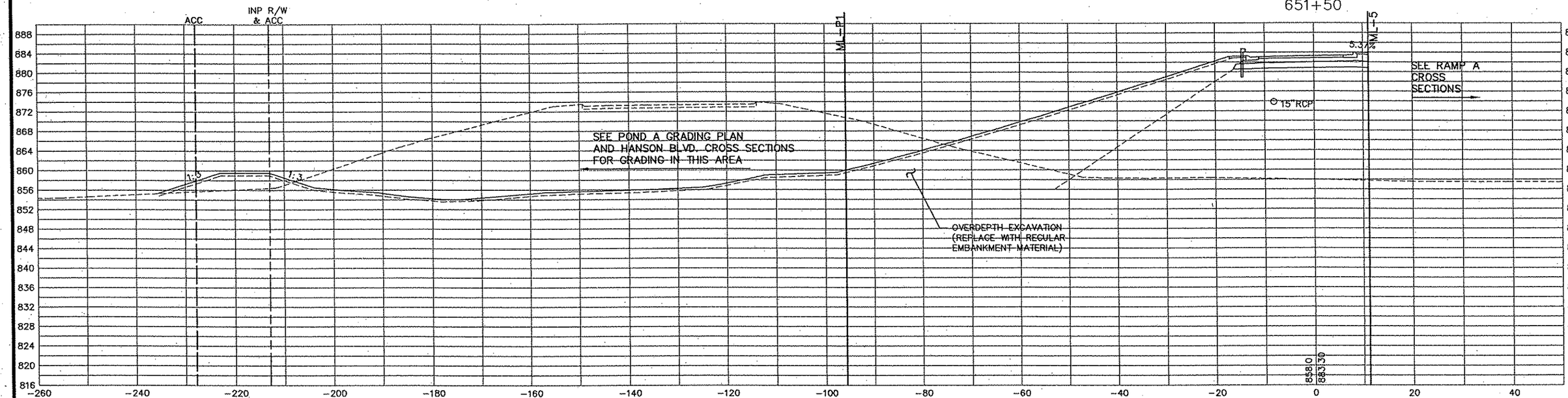
1 OF

-ramp-A-CON-REV3
c34bdr

652+00



651+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY:	PMJ
DESIGN BY:	PMJ
CHKED. BY:	SAW
DWG. NAME:	CSRA-CON-2
DATE:	JANUARY 8, 2007

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KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP A CONNECTION

CROSS SECTIONS
STATION 651+50.00 TO STATION 652+00.00

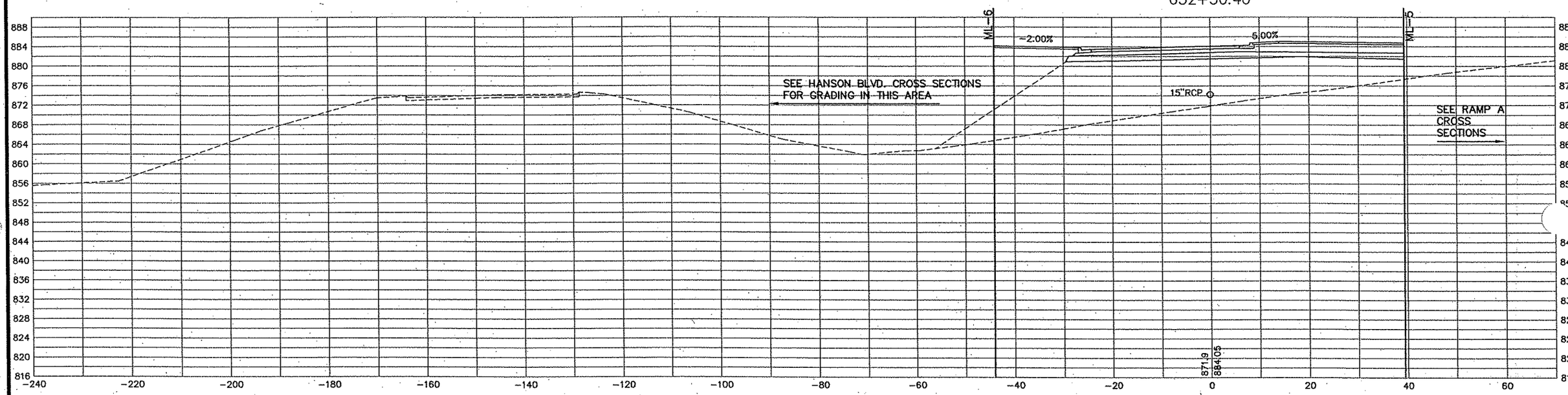
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 567 / 681

PLOT DATE: Jan .07 10:40am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-CON-02.dwg

-ramp-A-CON-REV3
:34bdr

652+30.46



PLOT DATE: Jan 07 10:40am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-CON-03.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRA-CON-3
DATE: JANUARY 8, 2007

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

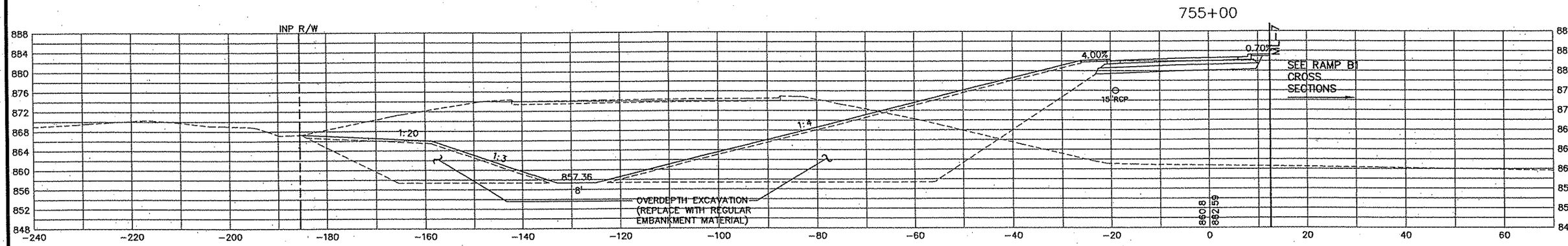
TH 10/HANSON BOULEVARD INTERCHANGE

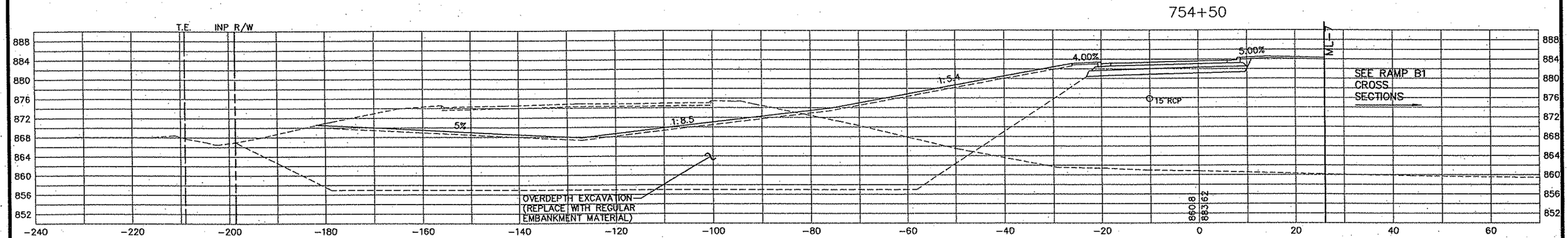
RAMP A CONNECTION

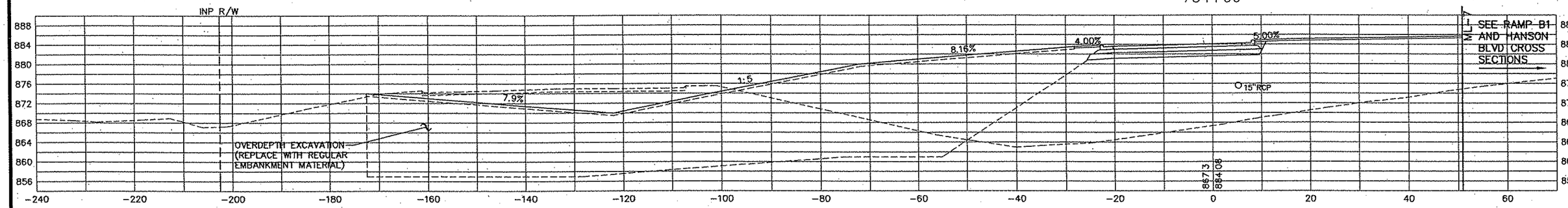
CROSS SECTIONS
STATION 652+30.46

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

Xref'd Drawings
-RAMPB-QNTY
ramp-B-con-ev3
34bdr







REV. NO.	BY.	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRB-CON-1
DATE: JANUARY 8, 2007

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Minneapolis, MN 55415
612.370.0700 Tel
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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP B CONNECTION

CROSS SECTIONS
STATION 754+00.00 TO STATION 755+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 569 / 681

PLOT DATE: Jan. 07 10:40am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-CON-01.dwg

Xref'd Drawings
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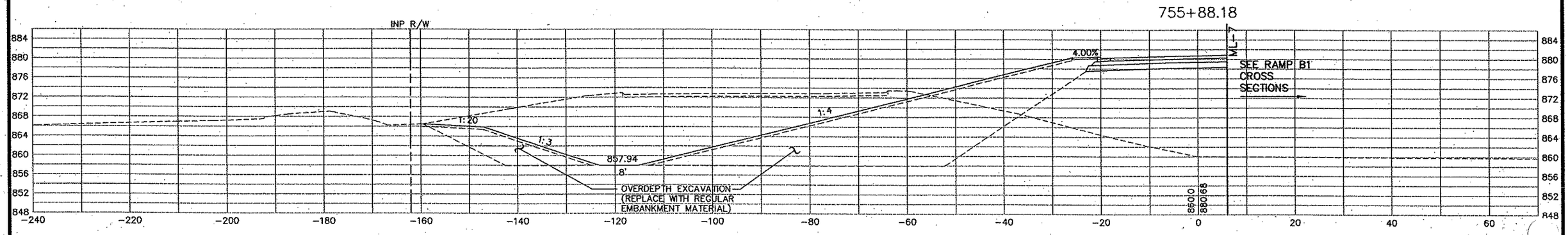
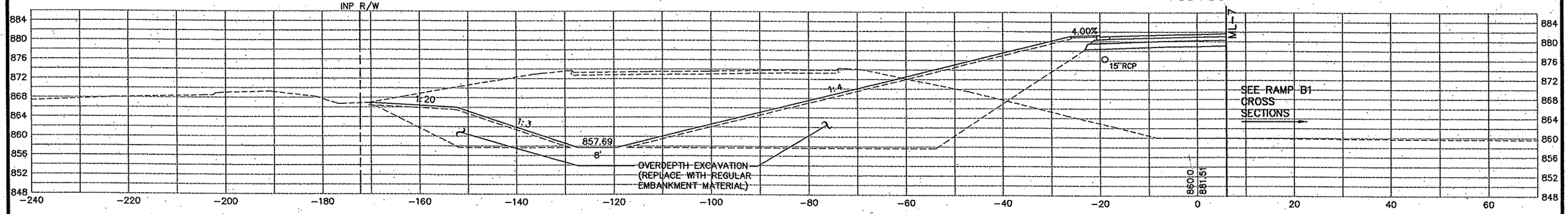
-ramp-B-con-ev3
c34bdr





PLOT DATE: Jan .007 10:40am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-3-CON-02.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
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CHKED. BY: SAW | DWG. NAME: CSRB-CON-2
DATE: JANUARY 8, 2007

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

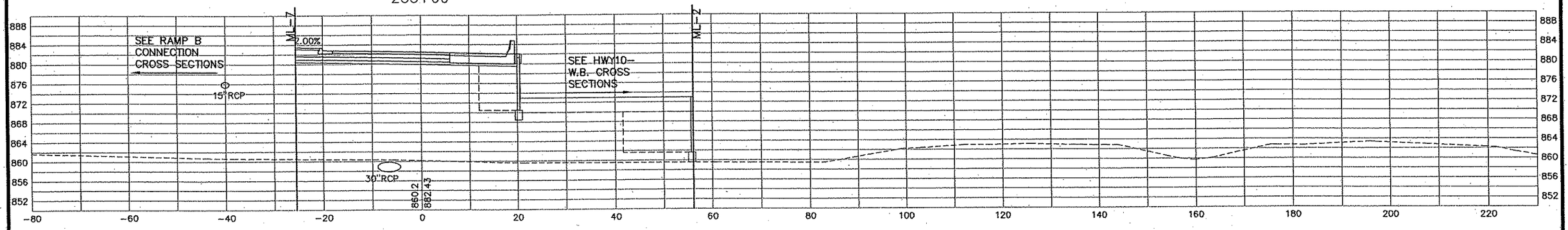
RAMP B CONNECTION

CROSS SECTIONS
STATION 755+50.00 TO STATION 755+88.18

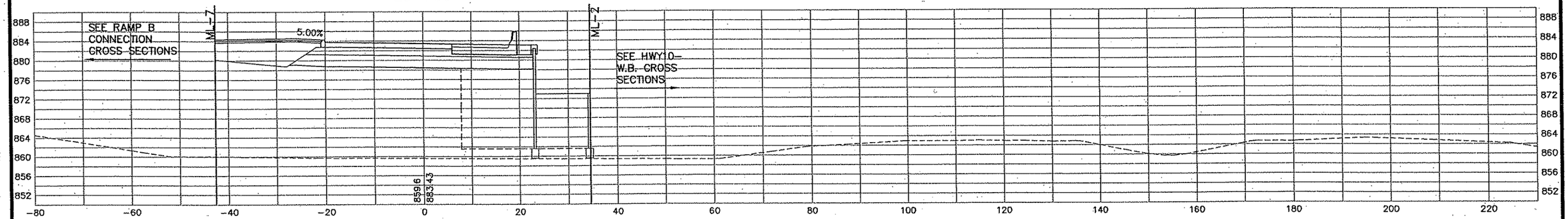
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

-ramp-B1-rev3
:34bdr

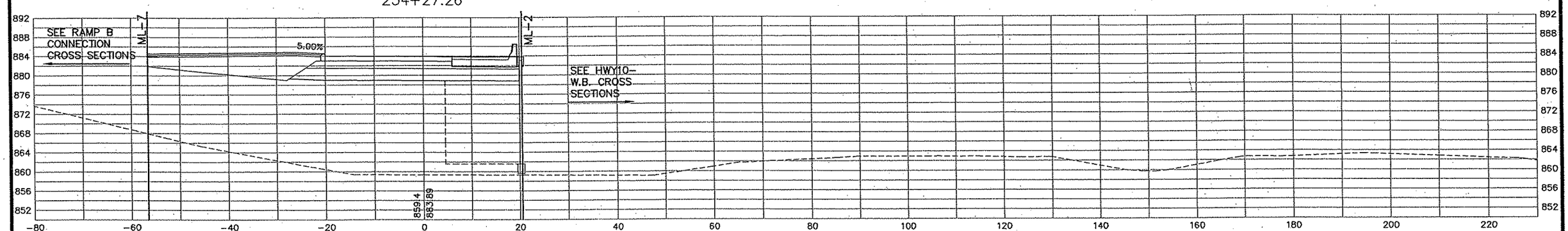
255+00



254+50



254+27.26



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRB1-01
DATE: JANUARY 8, 2007

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP B1

CROSS SECTIONS
STATION 254+27.26 TO STATION 255+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 571 / 681

PLOT DATE: Jan 007 10:40am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04 31-01.dwg

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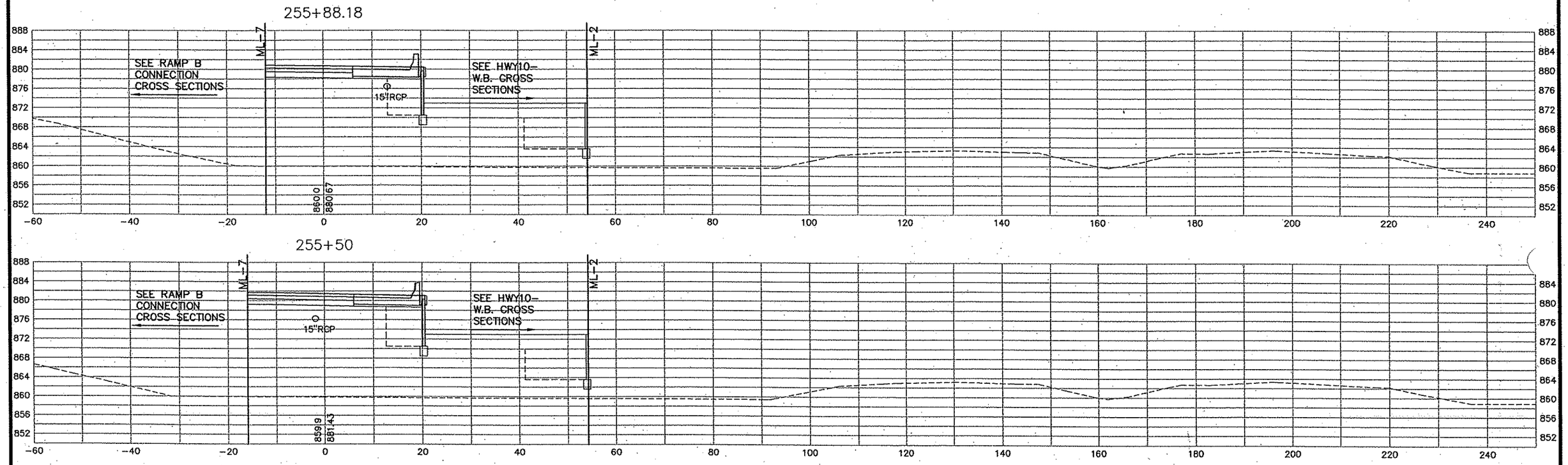

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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRB1-02
DATE: JANUARY 8, 2007

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700 Third Street South
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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

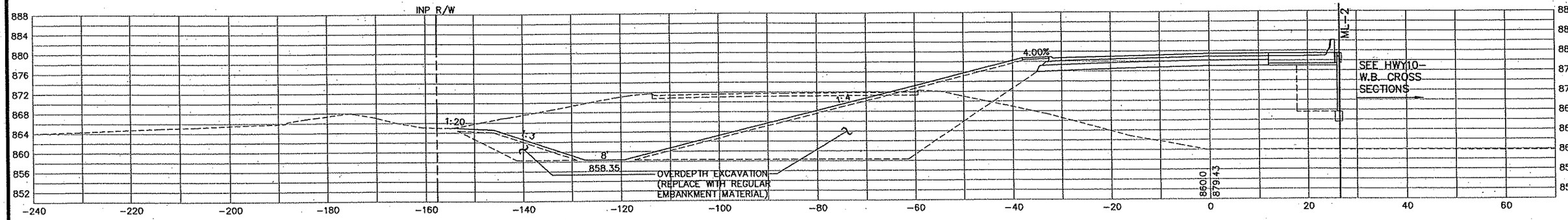
RAMP B1

CROSS SECTIONS
STATION 255+50.00 TO STATION 255+88.18

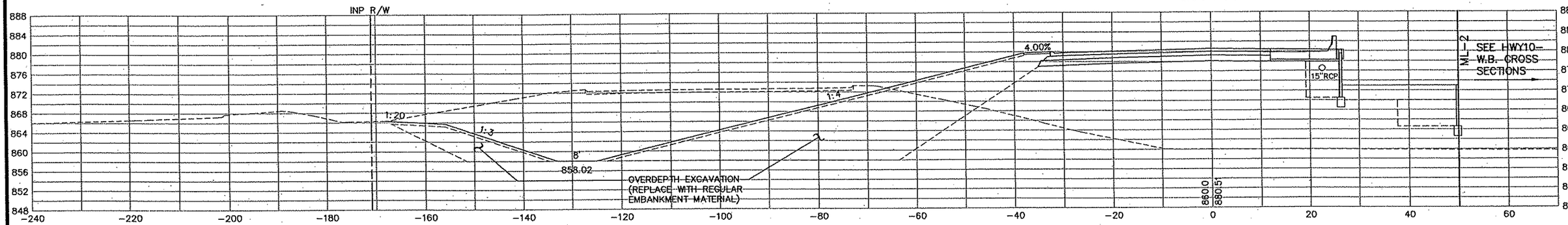
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

-ramp-B2-rev3
:34bdr

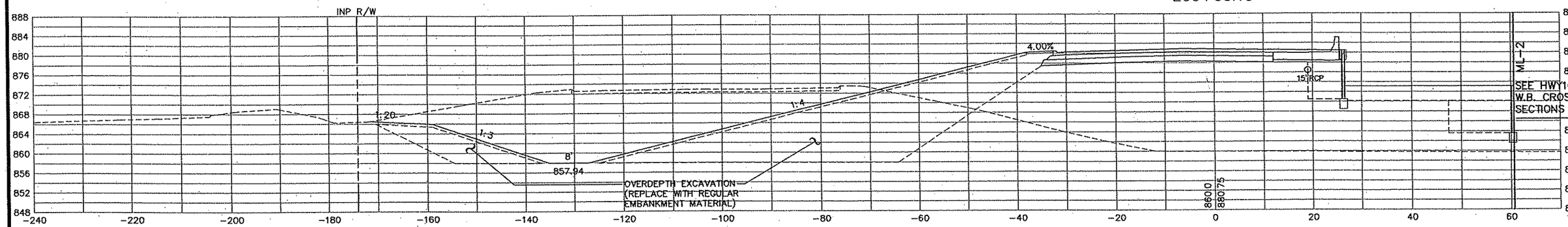
256+50



256+00



255+88.18



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRB2-01
DATE: JANUARY 8, 2007

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP B2

CROSS SECTIONS
STATION 255+88.18 TO STATION 256+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 573 / 681

PLOT DATE: Jan 2007 10:40am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-CSRB2-01.dwg

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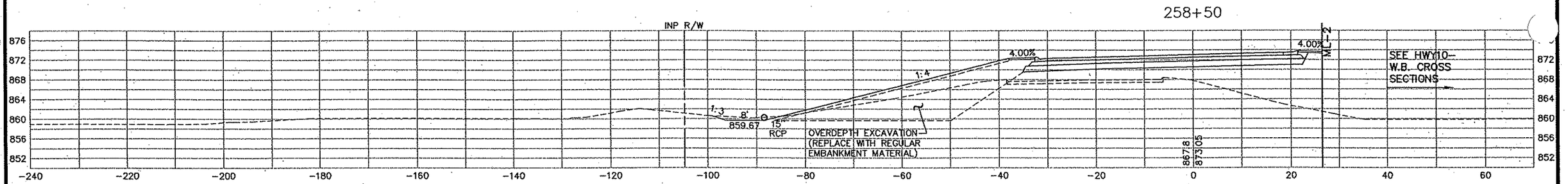

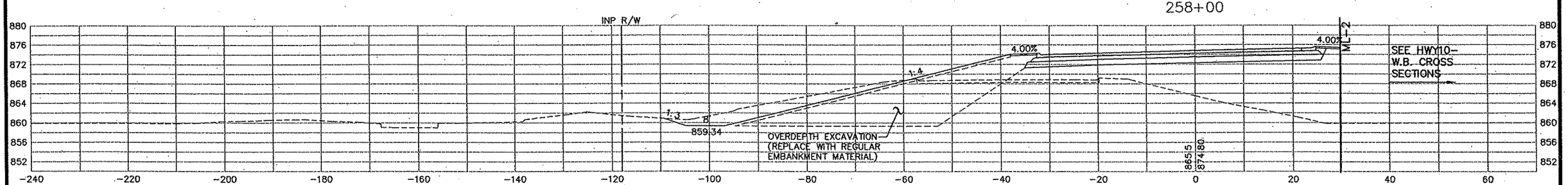

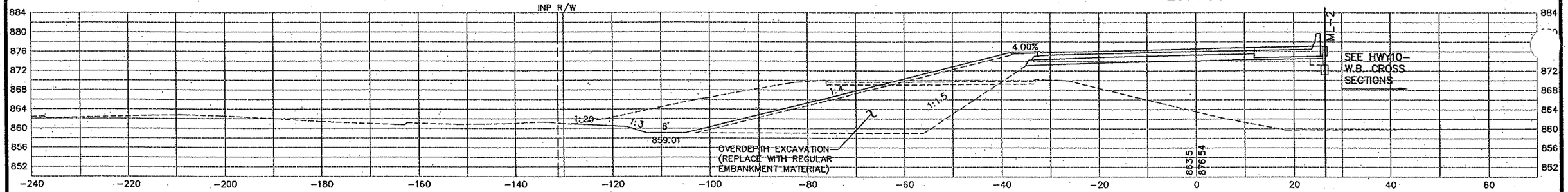

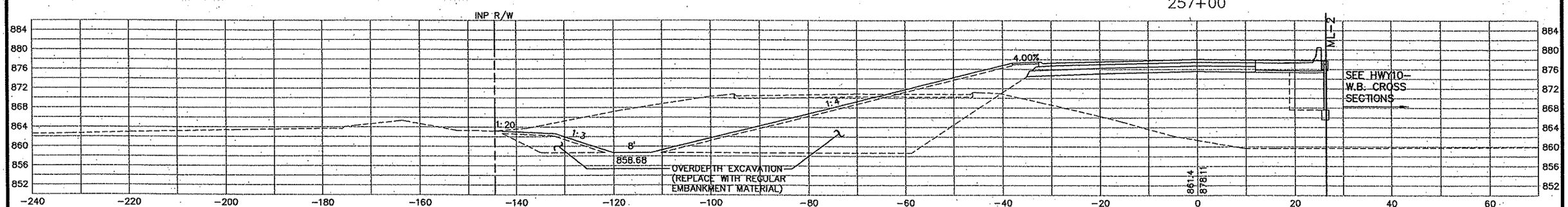

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRB2-02
DATE: JANUARY 8, 2007

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Minneapolis, MN 55415
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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE

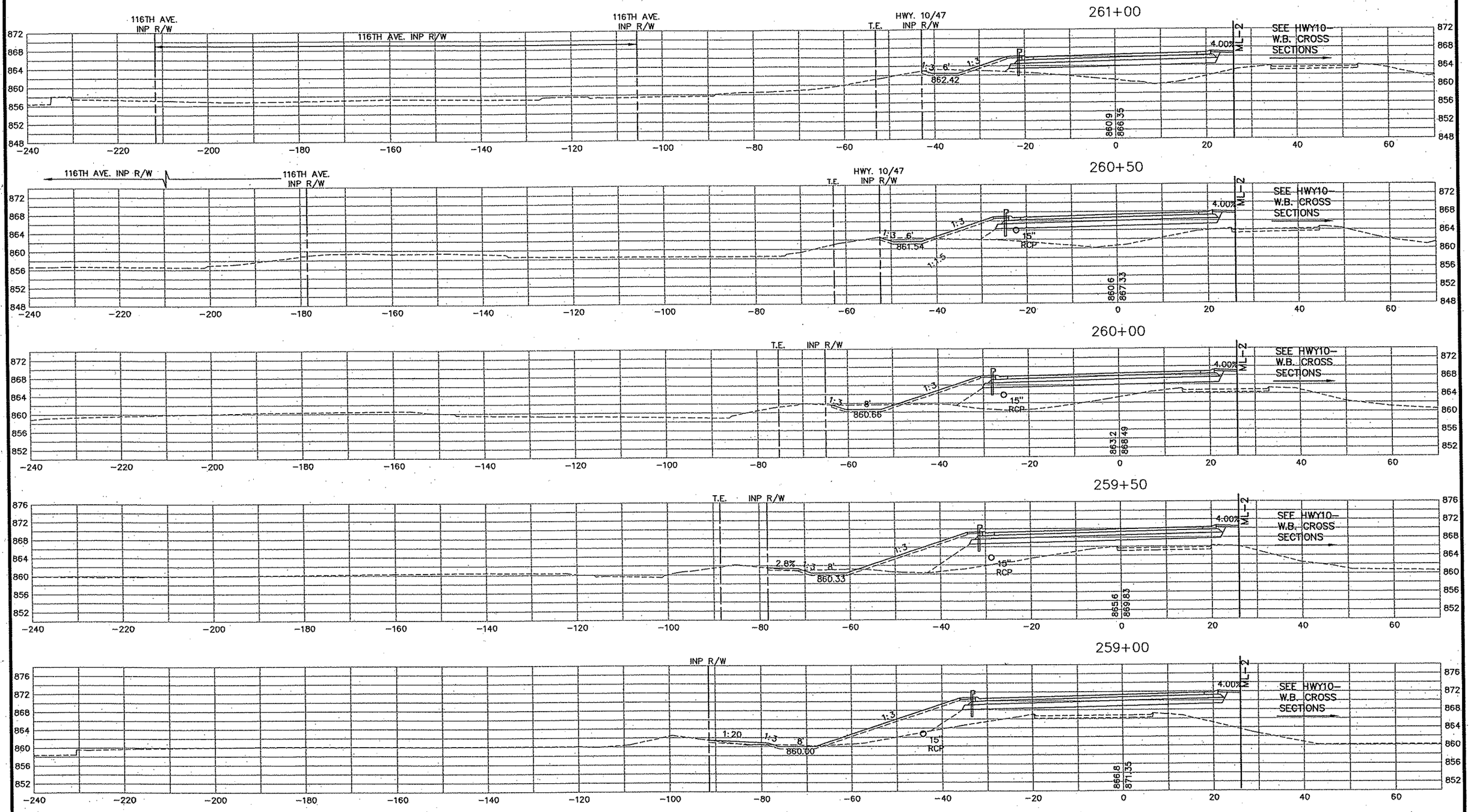
RAMP B2

CROSS SECTIONS
STATION 257+00.00 TO STATION 258+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 574 / 681

PLOT DATE: Jan .007 10:40am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04 -02.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRB2-03
DATE: JANUARY 8, 2007

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Minneapolis, MN 55415
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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP B2

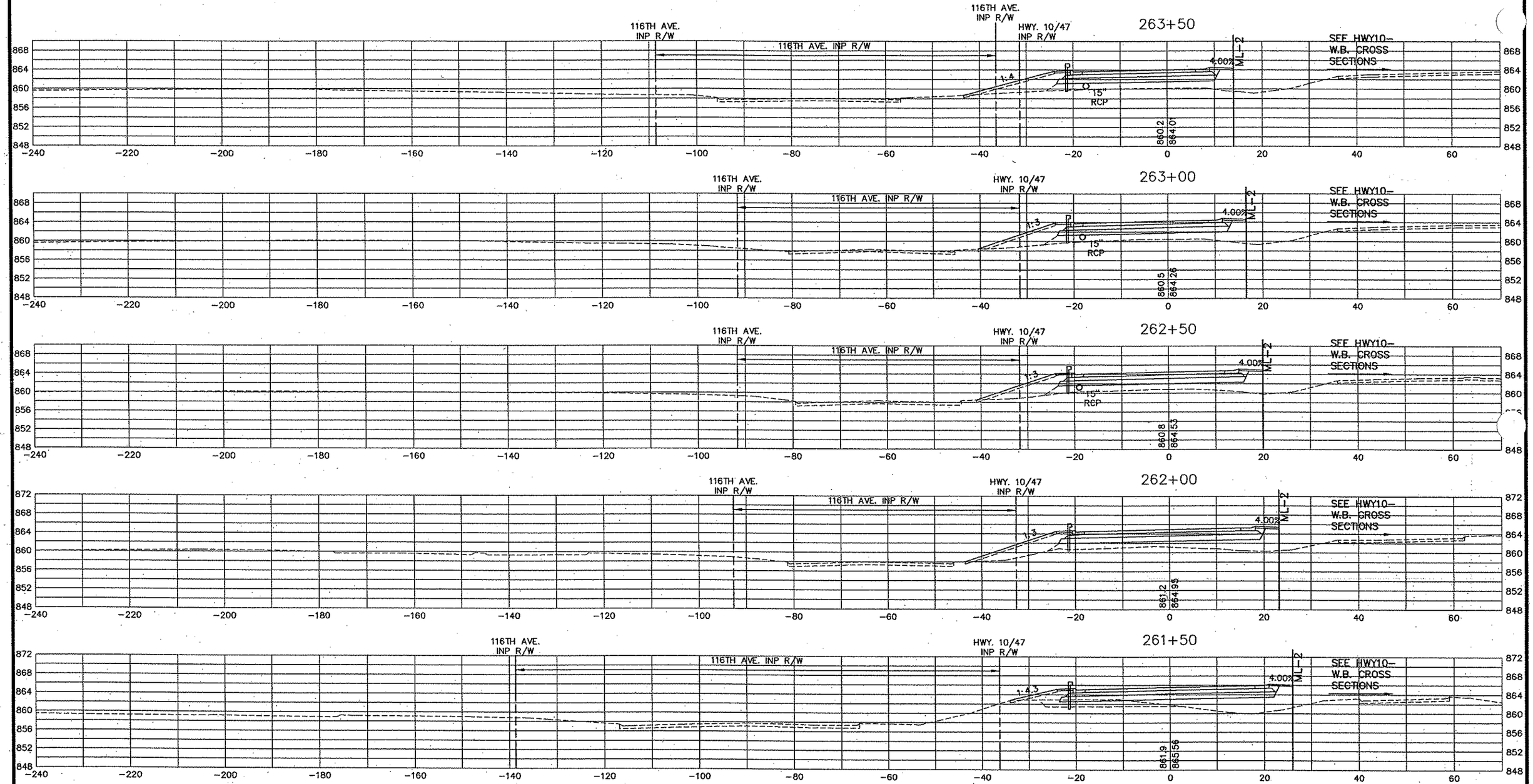
CROSS SECTIONS
STATION 259+00.00 TO STATION 261+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 575 / 681

PLOT DATE: Jan 30 07 10:40am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-32-03.dwg

-ramp-B2-rev3
c34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRB2-04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP B2

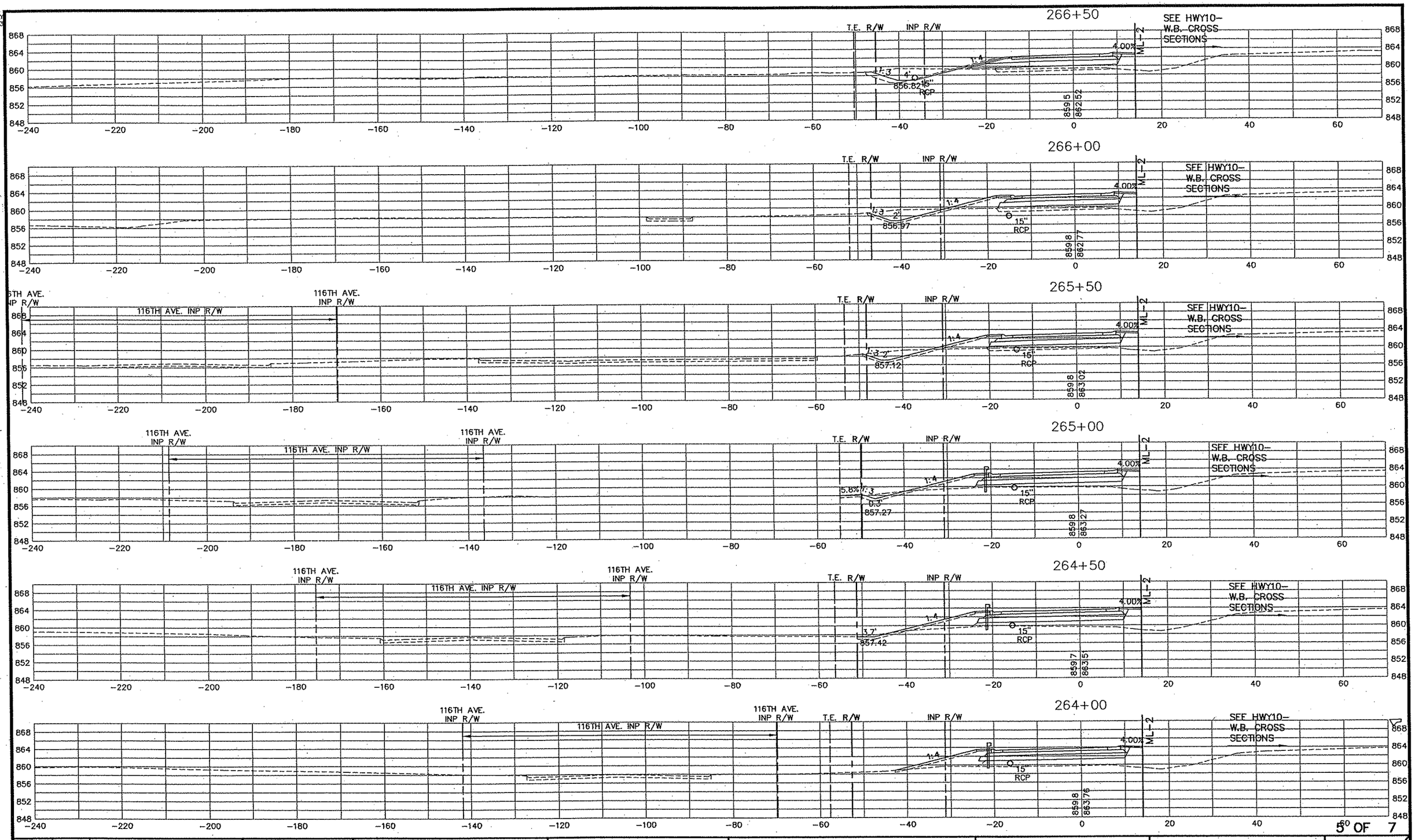
CROSS SECTIONS
STATION 261+50.00 TO STATION 263+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 576 / 681

PLOT DATE: Jan 07 10:40am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-02-04.dwg

PLOT DATE: Jan 07 10:40am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-ramp-B2-rev3-05.dwg
i34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY:	PMJ
DESIGN BY:	PMJ
CHKED. BY:	SAW
DWG. NAME:	CSRB2-05
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE

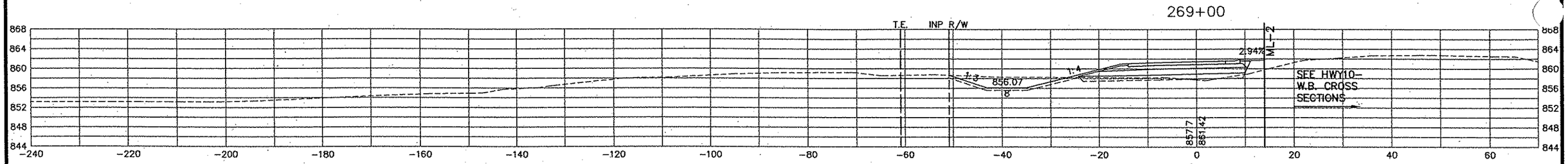
RAMP B2

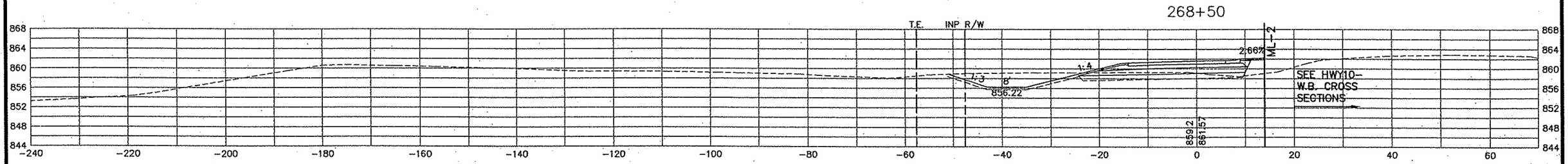
CROSS SECTIONS
STATION 264+00.00 TO STATION 266+50.00

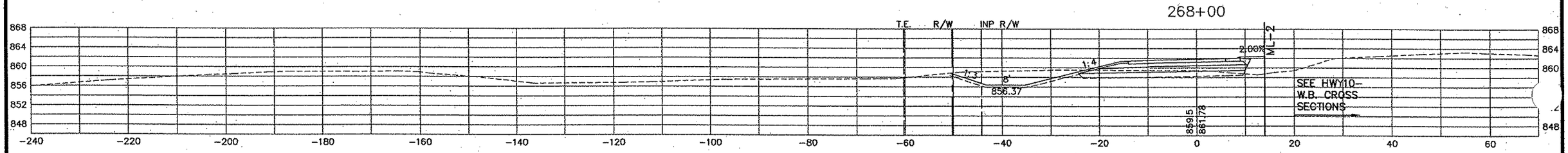
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

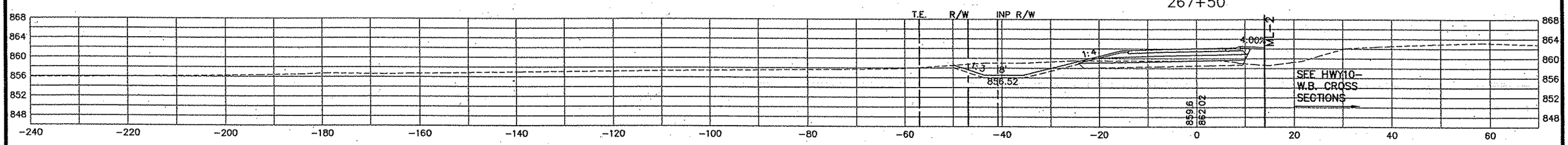
SHEET NO. 577 / 681

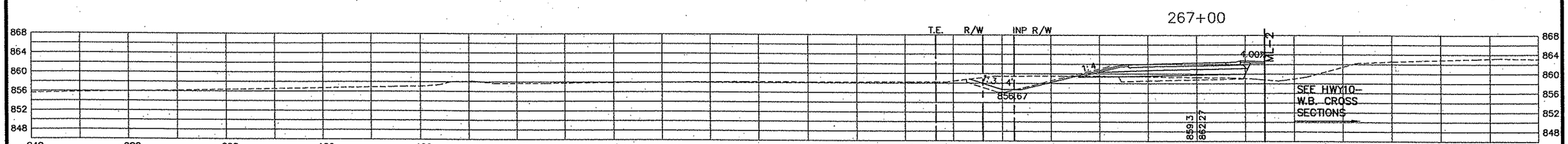
-ramp-B2-rev3
s34bdr











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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRB2-06
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP B2

CROSS SECTIONS
STATION 267+00.00 TO STATION 269+00.00

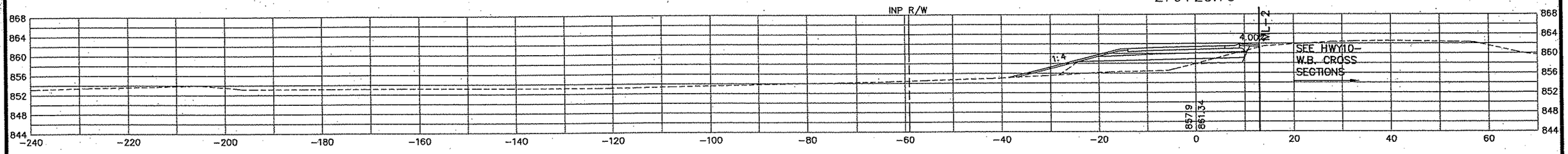
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 578 / 681

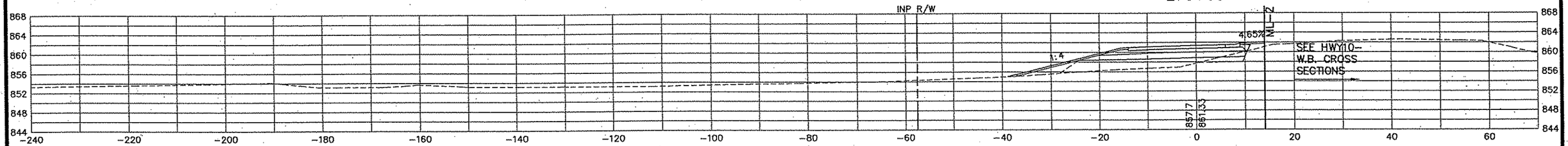
6 OF

ramp-B2-rev3
:34bdr

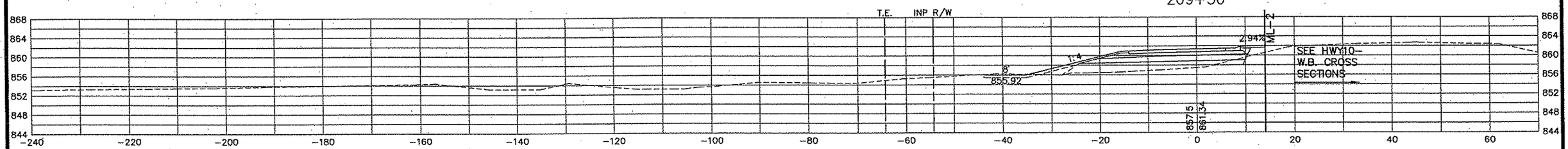
270+23.79



270+00



269+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRB2-07
DATE: JANUARY 8, 2007

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700 Third Street South
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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP B2

CROSS SECTIONS
STATION 269+50.00 TO STATION 270+23.79

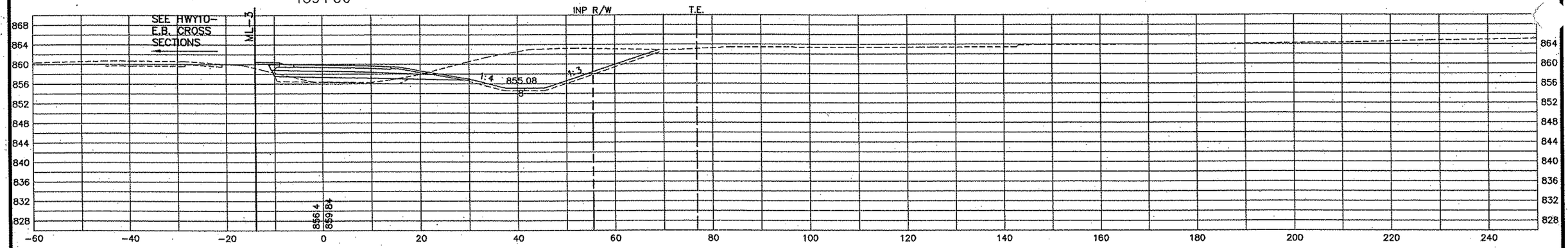
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 579 / 681

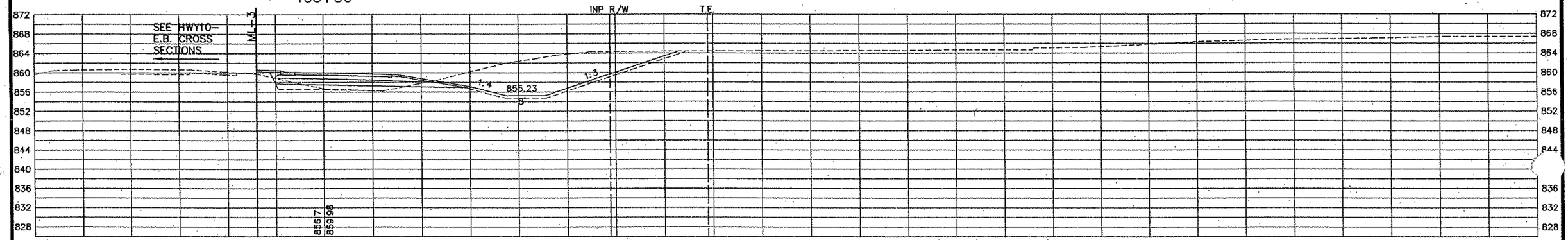
PLOT DATE: Jan 07 10:41am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-07.dwg

-ramp-C1-rev3
:34bdr

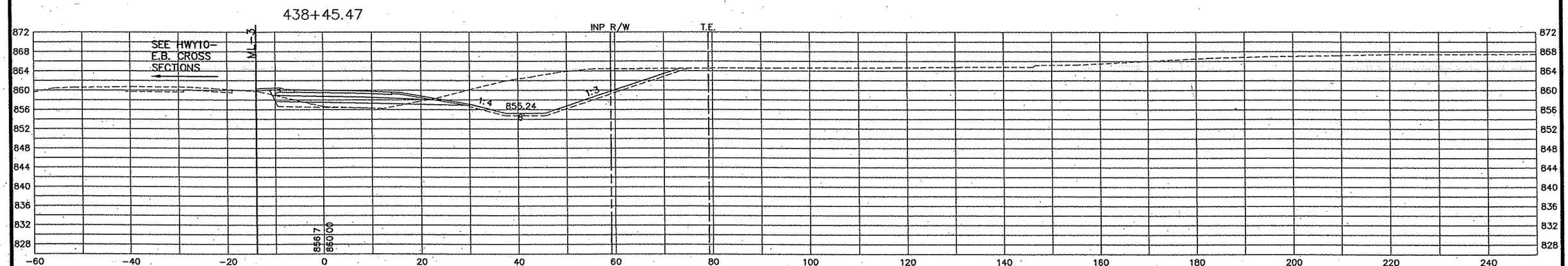
439+00



438+50



438+45.47



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRC1-01
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
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612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP C1

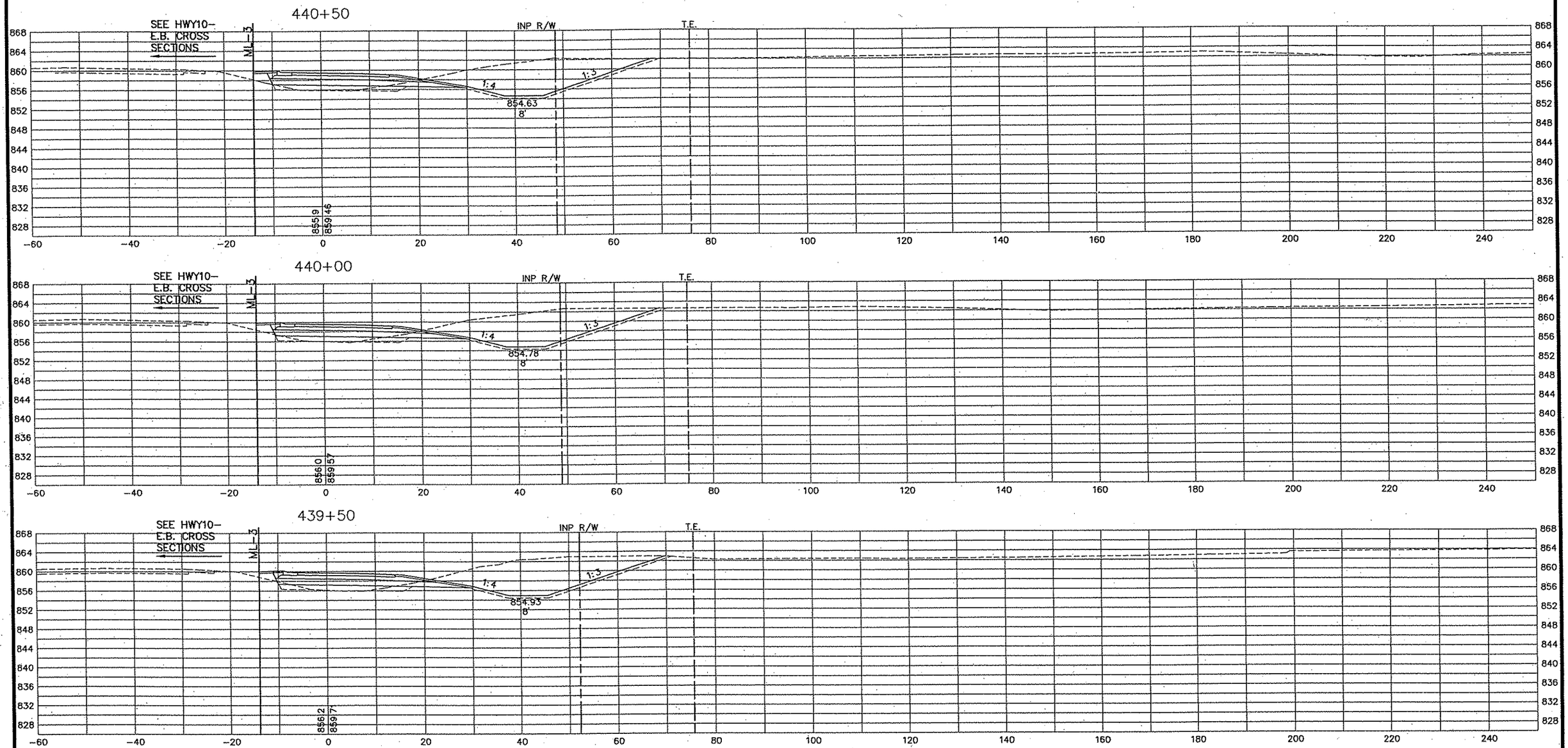
CROSS SECTIONS
STATION 438+45.47 TO STATION 439+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 580 / 681

1 OF

PLOT DATE: Jan 07 10:41am DISK FILE NAME: (16.1) R:\33889\338890421\PLAN-SHT\CROSS-SECTIONS\04-01.dwg



2 OF 10

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSRC1-02
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP C1

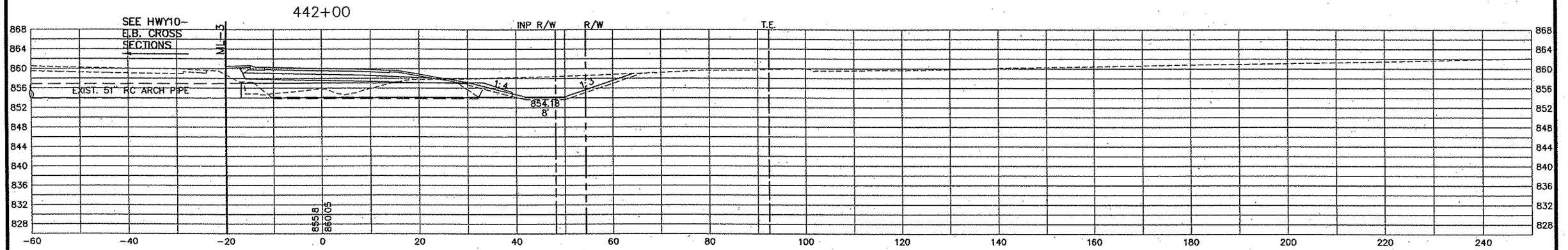
CROSS SECTIONS
STATION 439+50.00 TO STATION 440+50.00

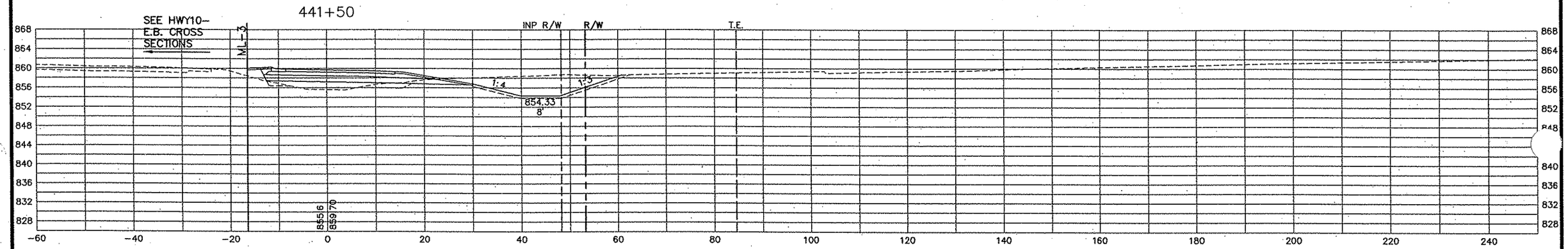
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

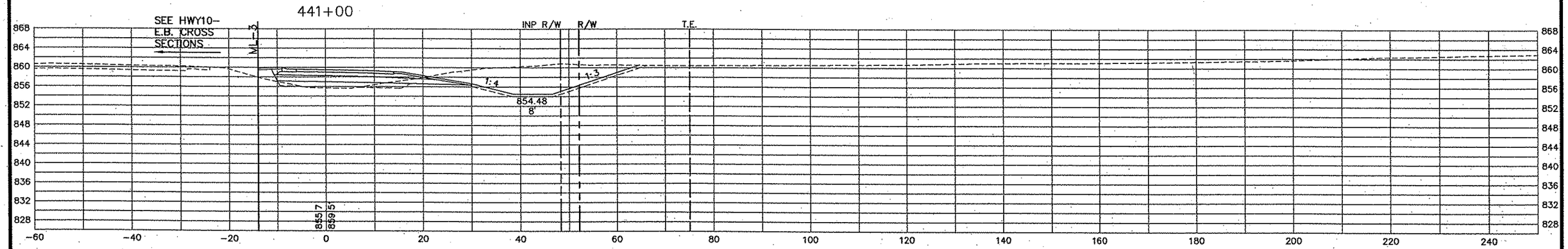
SHEET NO. 581 / 681

PLOT DATE: Jan 07 10:41am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04 1-02.dwg

-ramp-C1-rev3
:34bdr







REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRC1-03
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
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612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP C1

CROSS SECTIONS
STATION 441+00.00 TO STATION 442+00.00

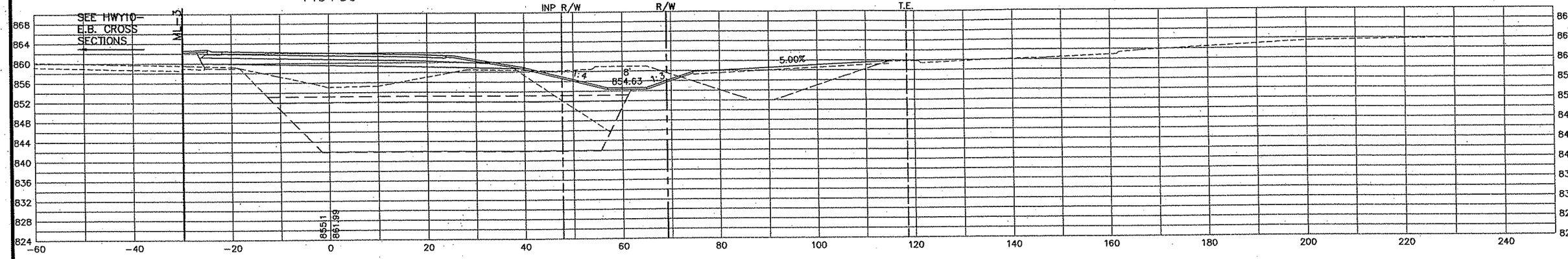
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 582 / 681

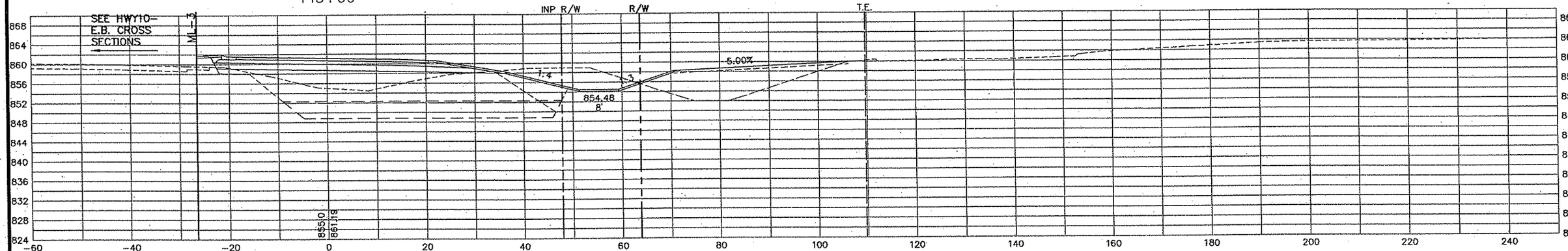
PLOT DATE: Jan 07 10:41am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-01-03.dwg

ramp-C1-rev3
34bdr

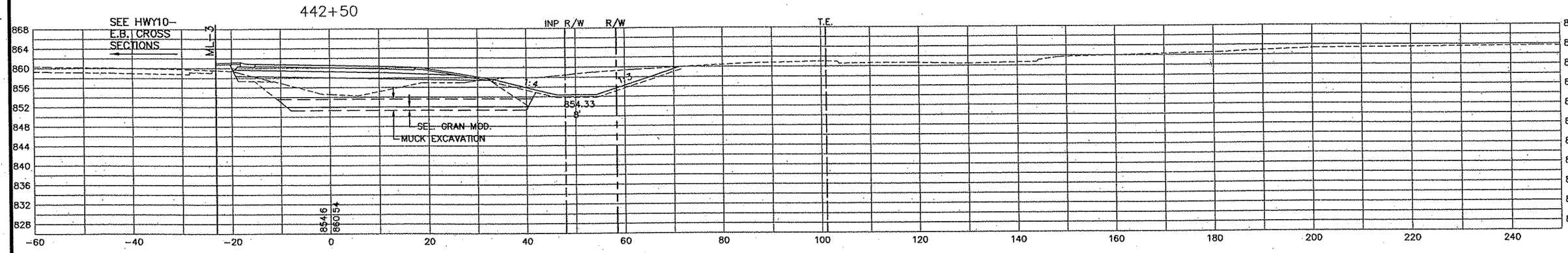
443+50



443+00



442+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRC1-04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP C1

CROSS SECTIONS
STATION 442+50.00 TO STATION 443+50.00

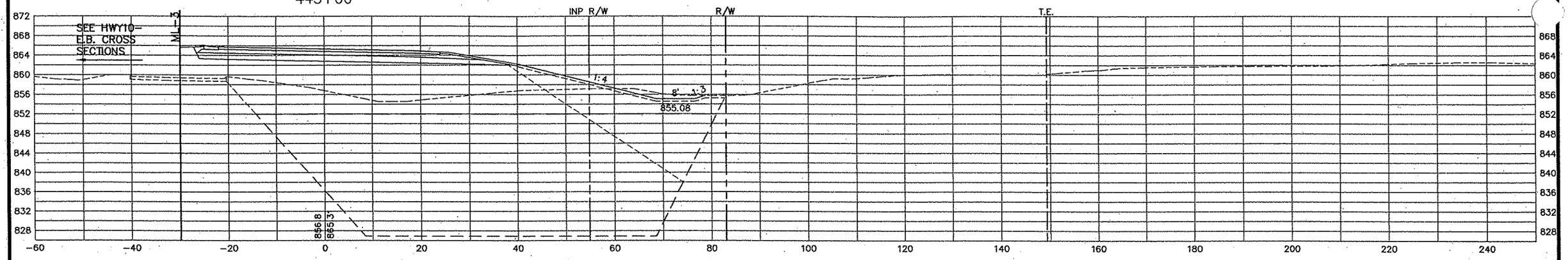
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 583 / 681

PLOT DATE: Jan. 07 10:41am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-04.dwg

-ramp-C1--rev3
c34bdr

445+00



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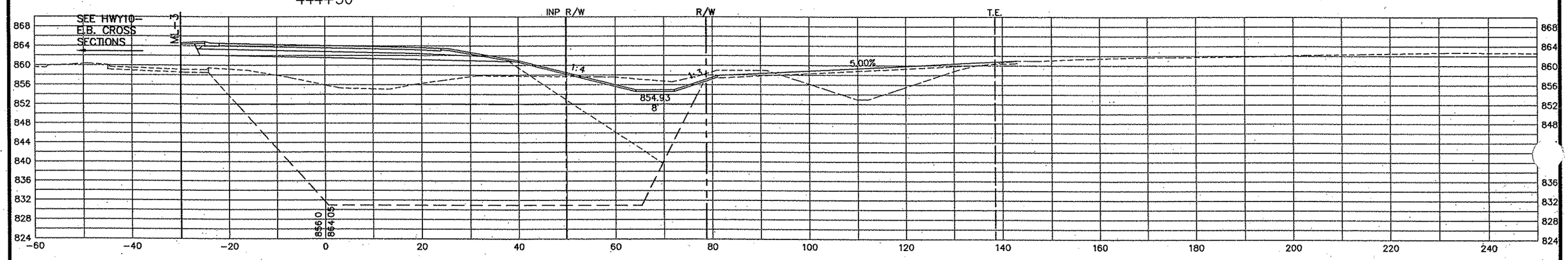
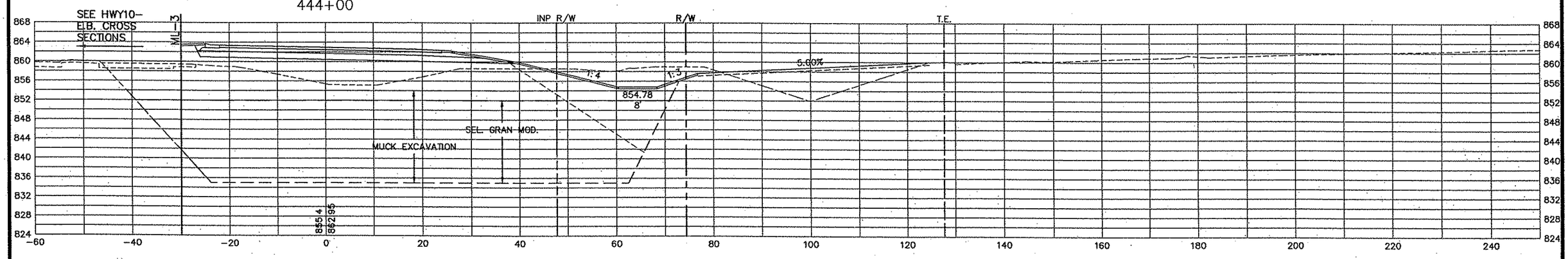


444+00



PLOT DATE: Jan 37 10:41am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-05.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRC1-05
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP C1

CROSS SECTIONS
STATION 444+00.00 TO STATION 445+00.00

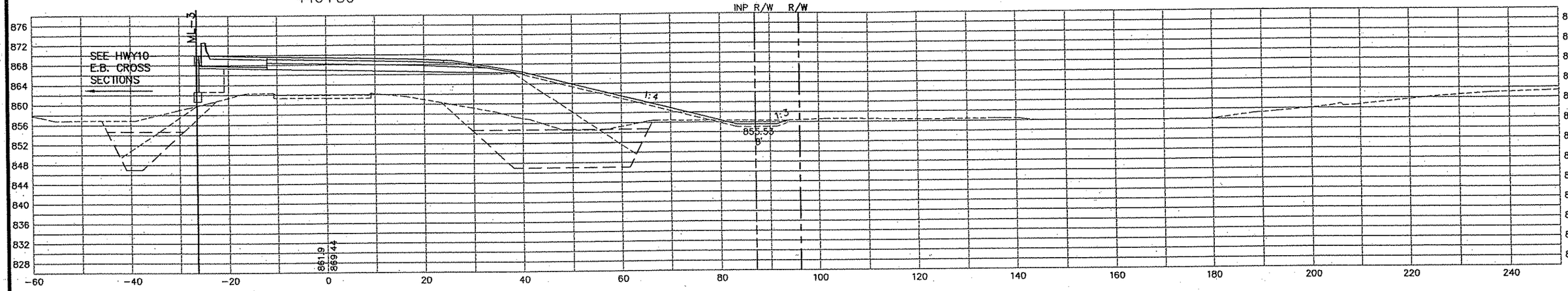
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 584 / 681

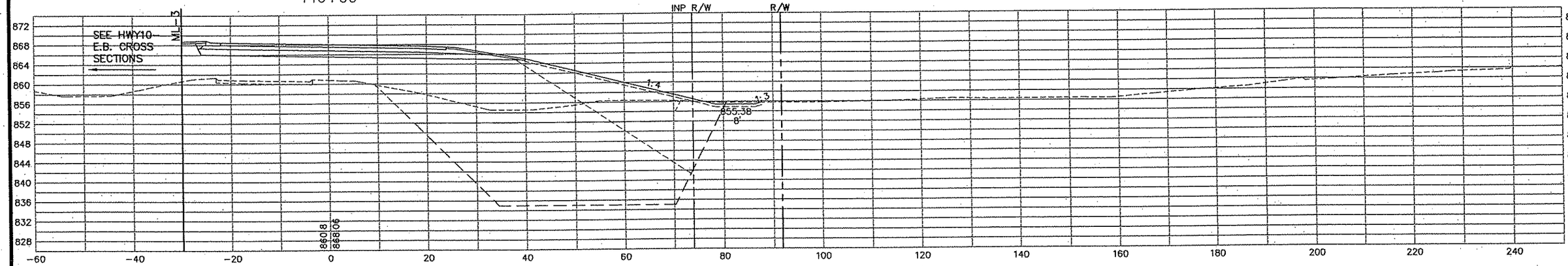
5 OF

Xref'd Drawings
042-RAMPC-CNTY
cs-ramp-C1-rev3
22x34bdr

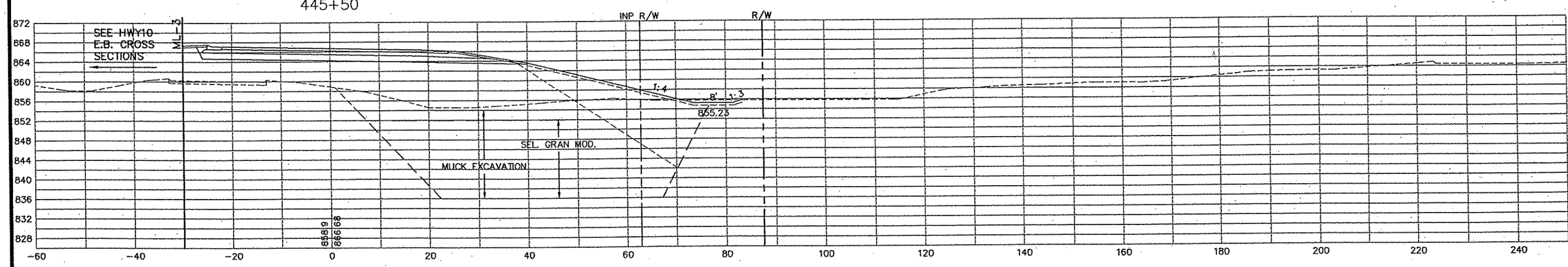
446+50



446+00



445+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRC1-06
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1978 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP C1

CROSS SECTIONS
STATION 445+50.00 TO STATION 446+50.00

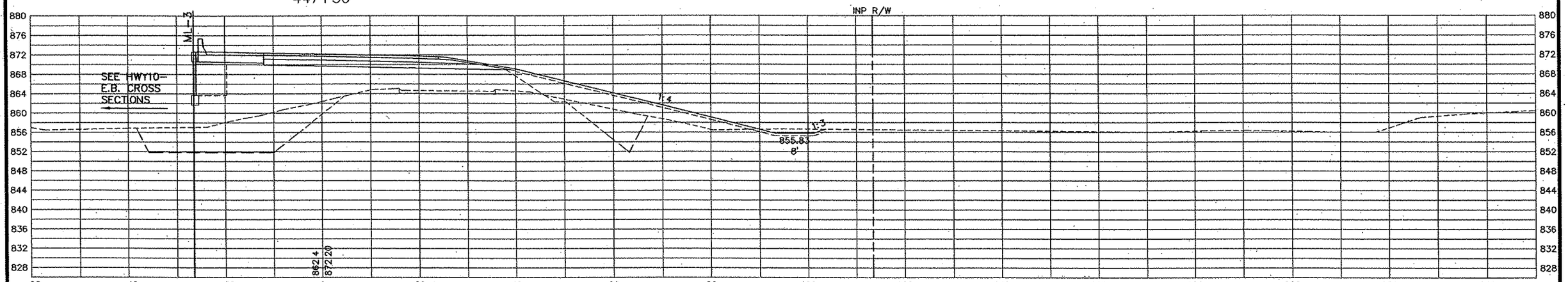
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 585 / 681

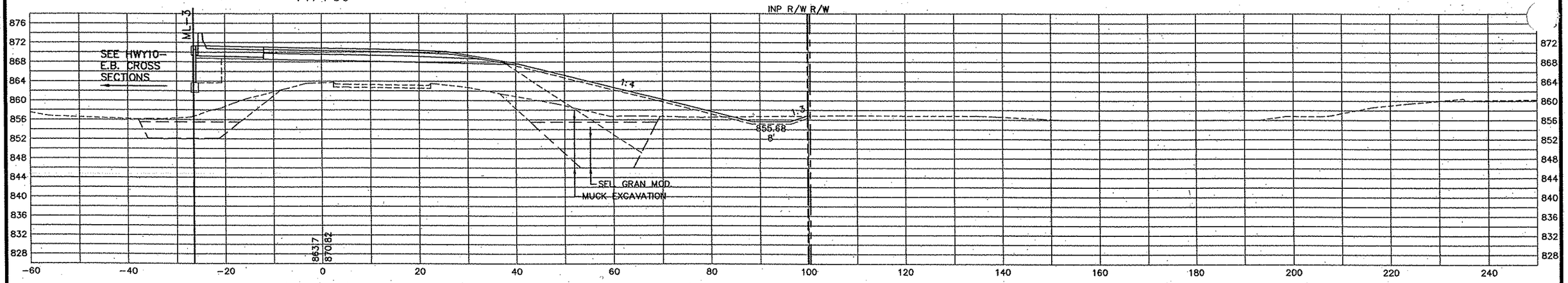
PLOT DATE: Jan 07 10:41am DISK FILE NAME: (16.1) R:\33889\338890421\PLAN-SHT\CROSS-SECTIONS\04...1-06.dwg

-ramp-C1-Rev3
34bdr

447+50



447+00



PLOT DATE: Jan 07 10:41am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-07.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRC1-07
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP C1

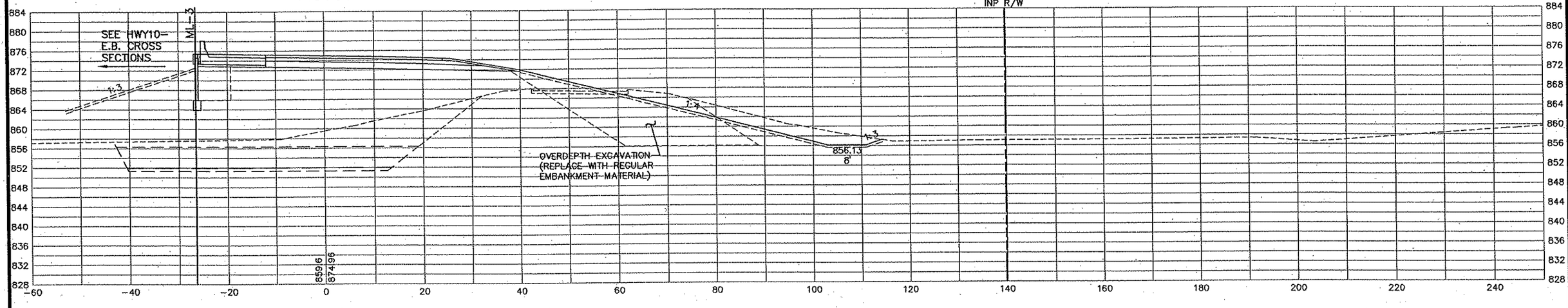
CROSS SECTIONS
STATION 447+00.00 TO STATION 447+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

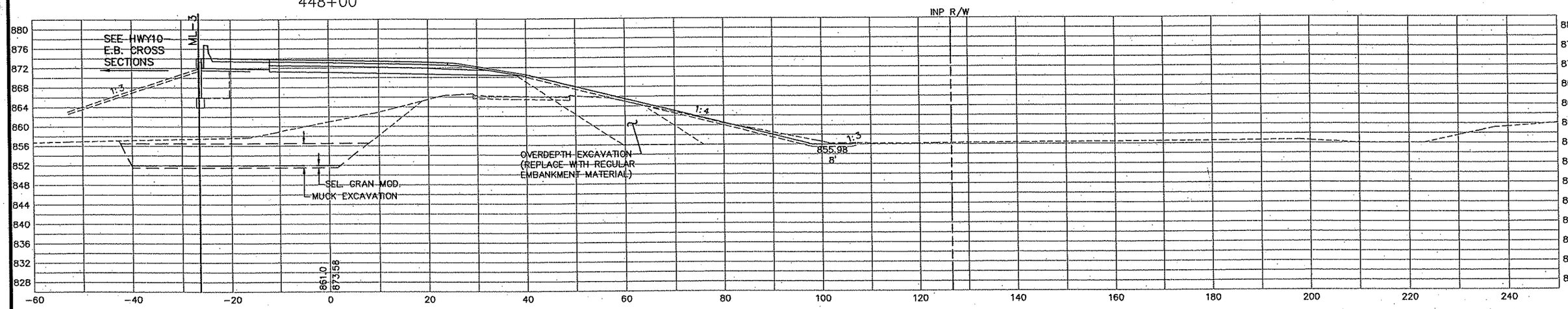
SHEET NO. 586 / 681

ramp-C1-rev3
34bdr

448+50



448+00



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRC1-08
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP C1

CROSS SECTIONS
STATION 448+00.00 TO STATION 448+50.00

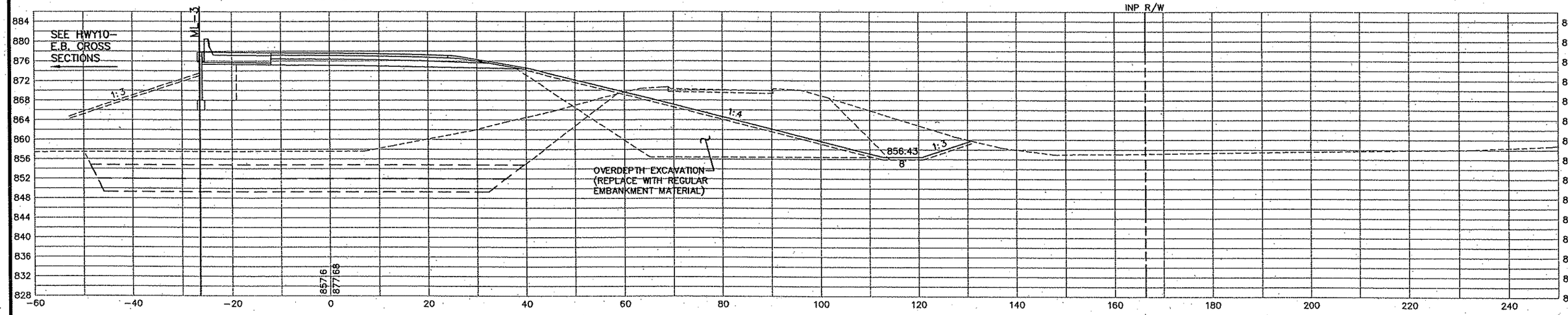
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 587 / 681

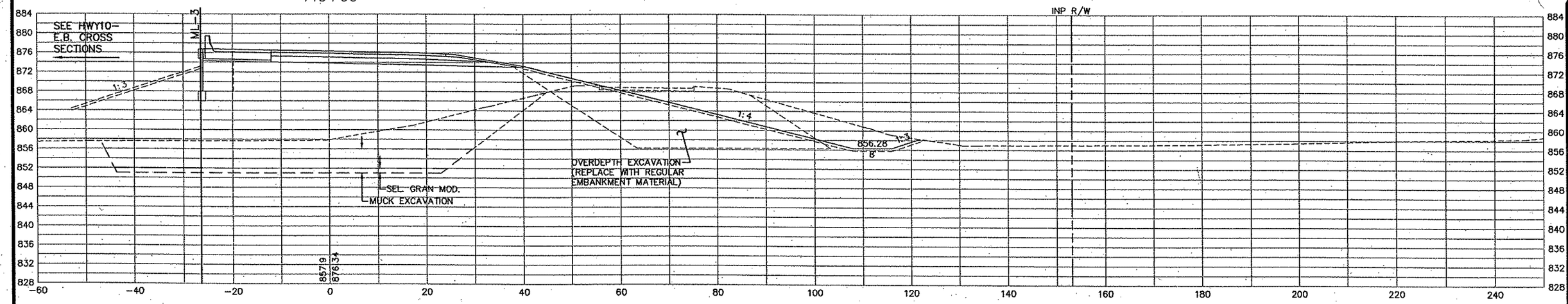
PLOT DATE: Jan 07 10:41am DISK FILE_NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-08.dwg

-ramp-C1-rev3
t34bdr

449+50



449+00



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRC1-09
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP C1

CROSS SECTIONS
STATION 449+00.00 TO STATION 449+50.00

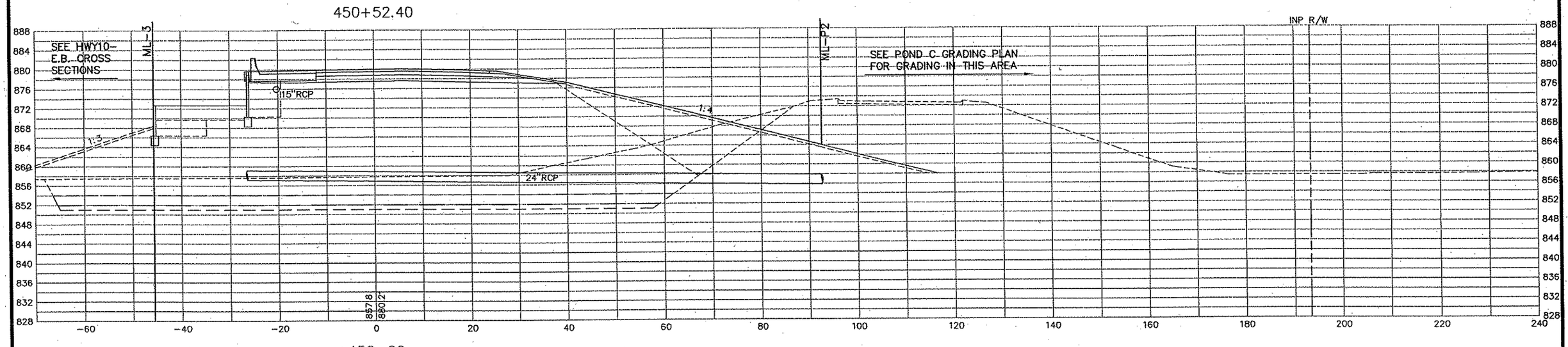
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

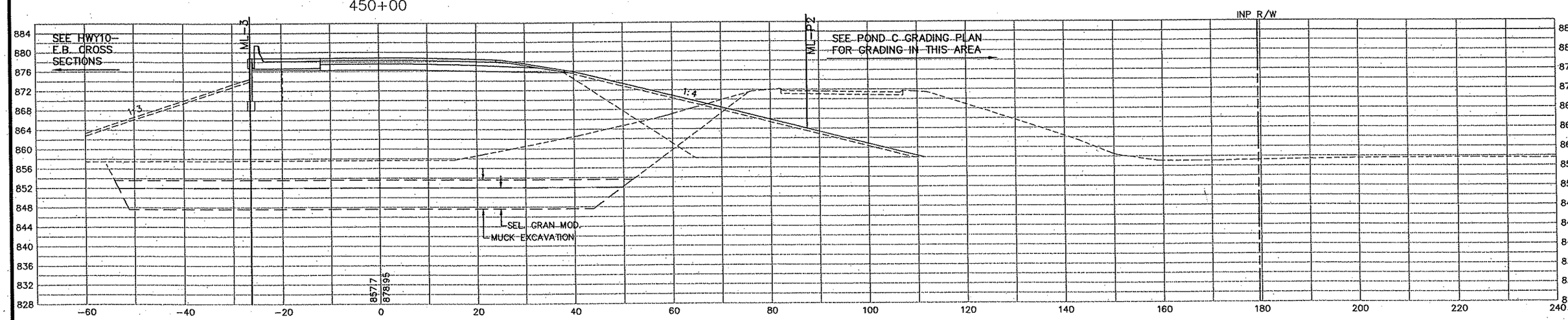
SHEET NO. 588 / 681

9 OF

PLOT DATE: Jan 07 10:41am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-09-ramp

-ramp-C1-rev3
:34bdr





REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRC1-10
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP C1

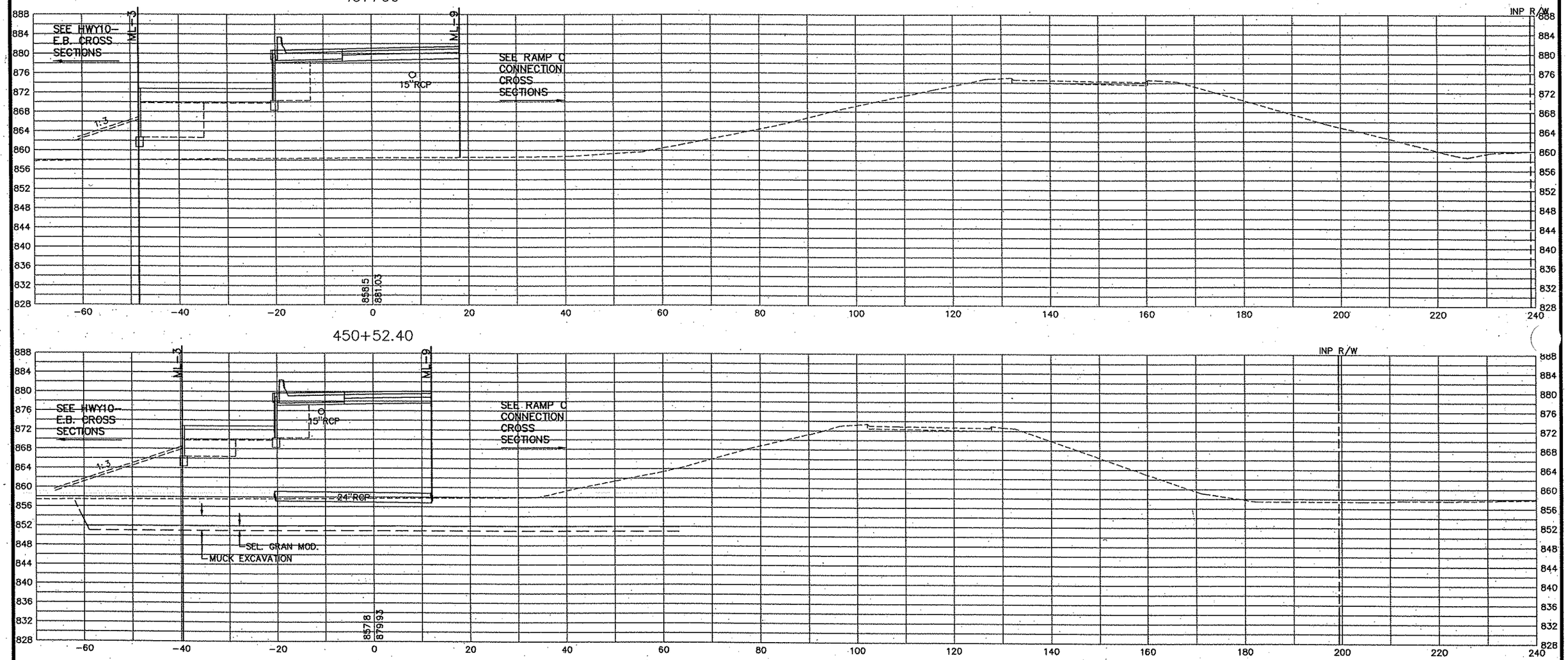
CROSS SECTIONS
STATION 450+00.00 TO STATION 450+52.40

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 589 / 681

PLOT DATE: Jan .07 10:41am DISK FILE NAME: (18.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10.dwg

ramp-C2--rev3
34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRC2-01
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

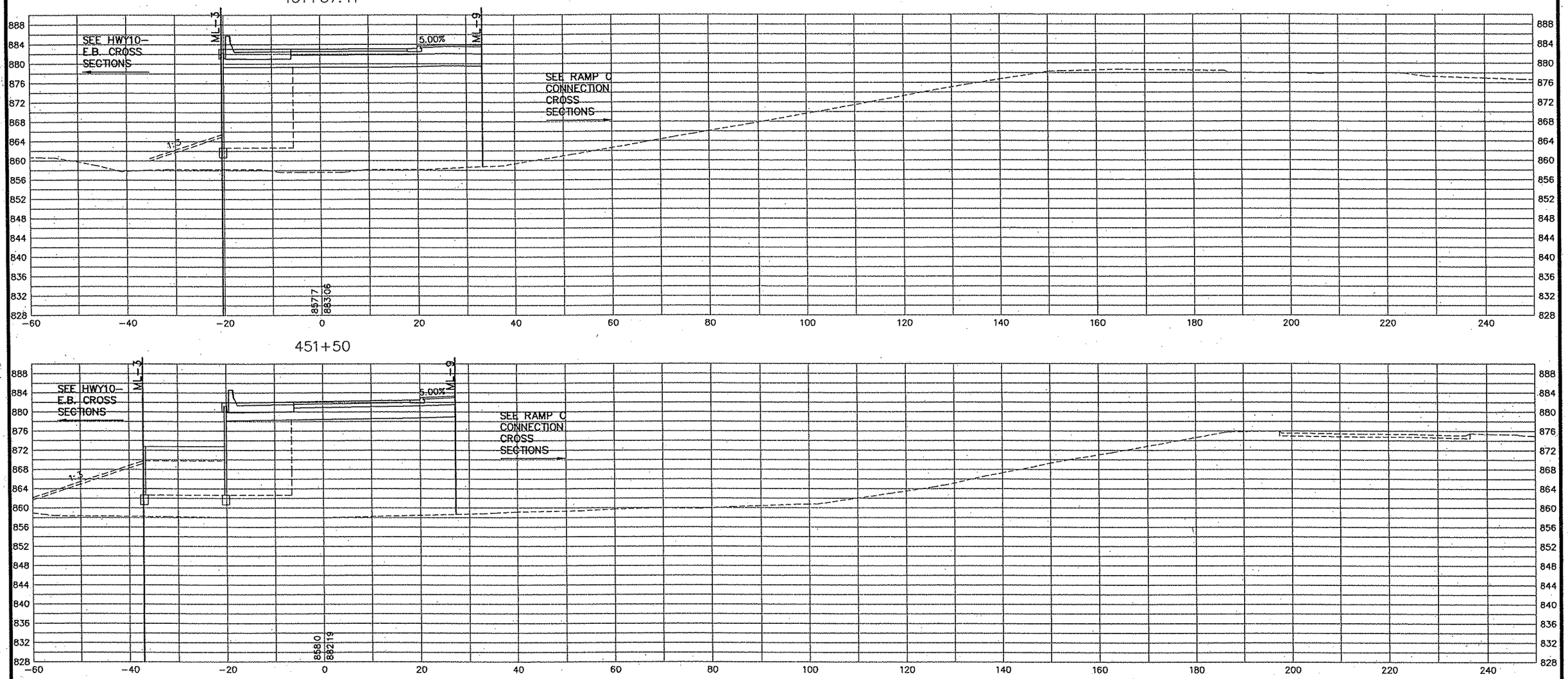
RAMP C2

CROSS SECTIONS
STATION 450+52.40 TO STATION 451+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

PLOT DATE: Jan .007 10:41am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04 2-01.dwg

Xref'd Drawings
042-RAMPC-CNTY
cs-ramp-C2-ev3
22x34bdr



2 OF 2

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRC2-02
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP C2

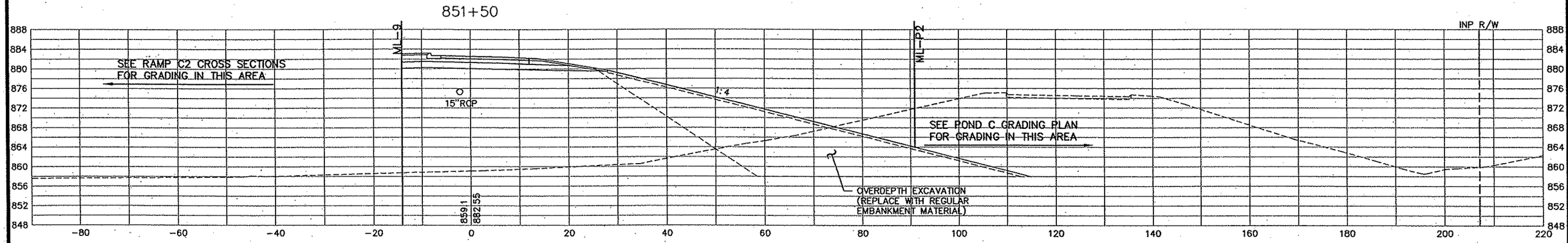
CROSS SECTIONS
STATION 451+50.00 TO STATION 451+87.41

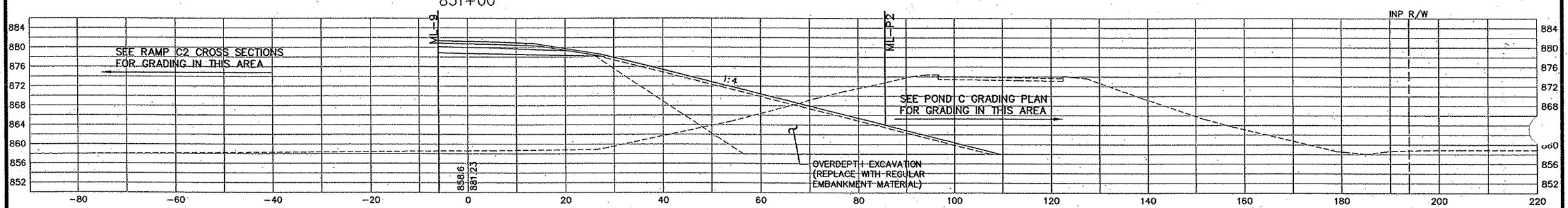
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

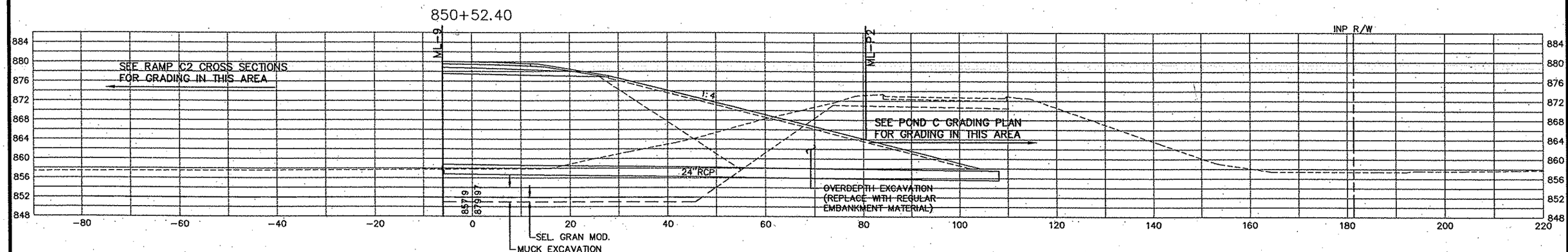
SHEET NO. 591 / 681

PLOT DATE: Jan 07 10:41am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-02.dwg

-ramp-C-con-ev3
c34bdr







REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRC-CON-1
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP C CONNECTION

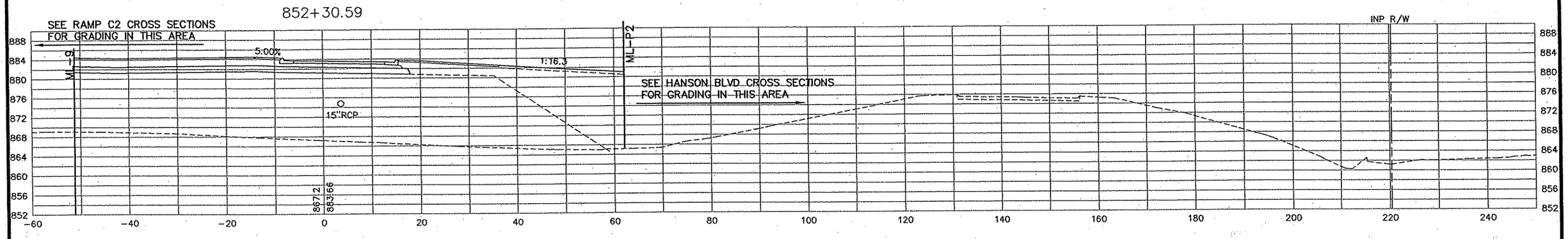
CROSS SECTIONS
STATION 850+52.40 TO STATION 851+50

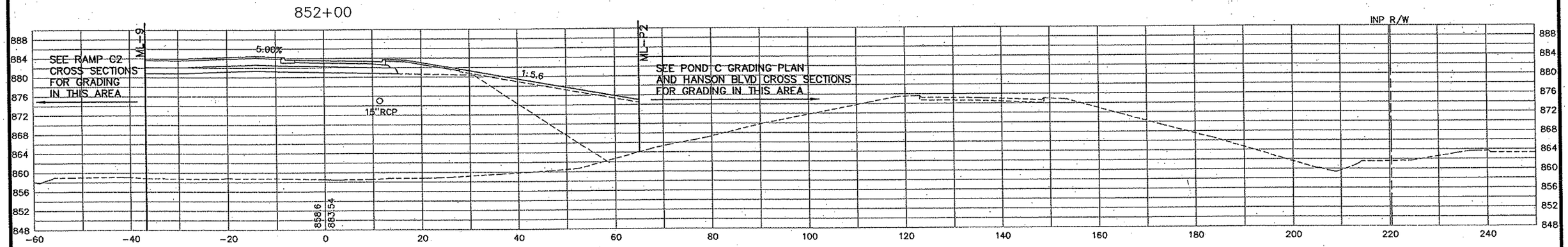
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 592

PLOT DATE: Jan .007 10:41am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-C-CON-01.dwg

-ramp--C-con--ev3
34bdr





REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRC-CON-2
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

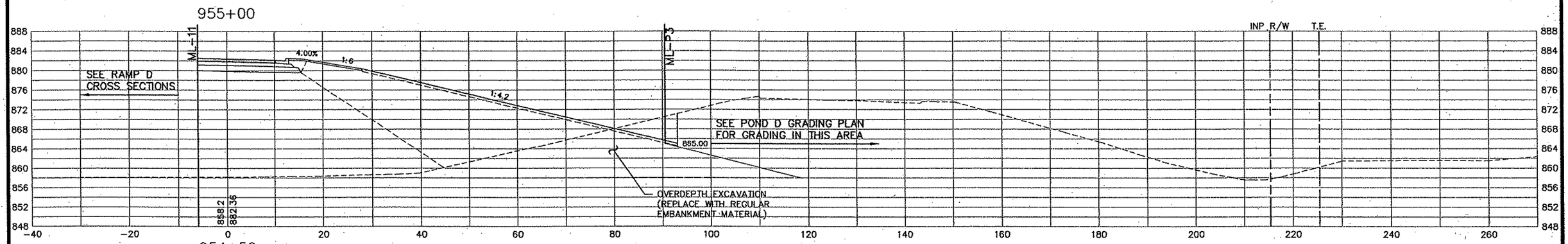
TH 10/HANSON BOULEVARD INTERCHANGE
RAMP C CONNECTION
CROSS SECTIONS
STATION 852+00.00 TO STATION 852+30.59

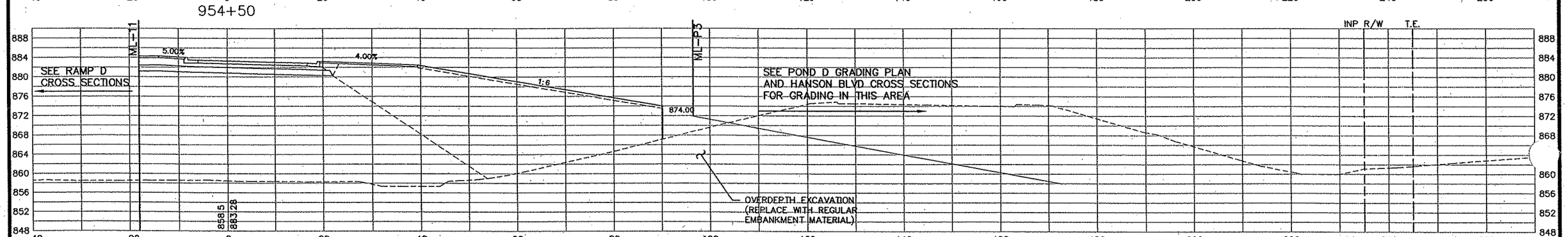
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

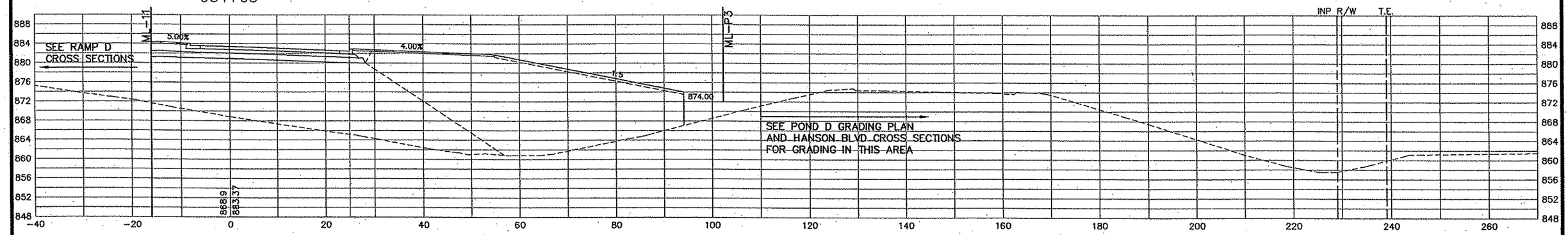
SHEET NO. 593 / 681

PLOT DATE: Jan 07 10:41am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-CON-02.dwg

-ramp-D-CON-REV3
:34bdr







PLOT DATE: Jan 07 10:42am DISK FILE NAME: (16:1) R:\33889\338890042\PLAN-SHT\CROSS-SECTIONS\04-CON-01.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRD-CON-1
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP D CONNECTION

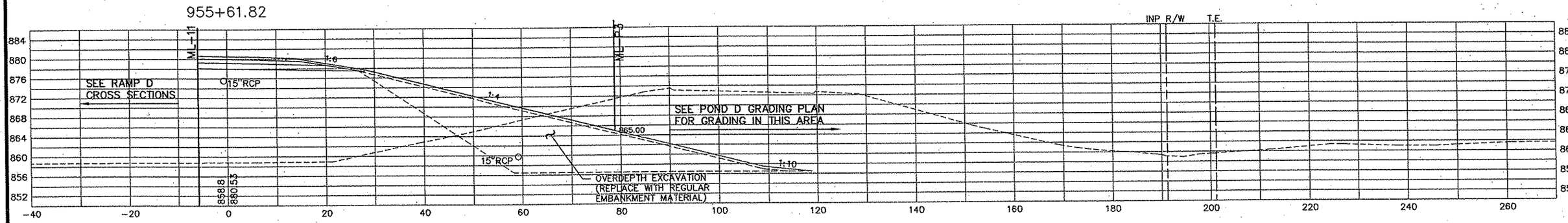
CROSS SECTIONS
STATION 954+08.00 TO STATION 955+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

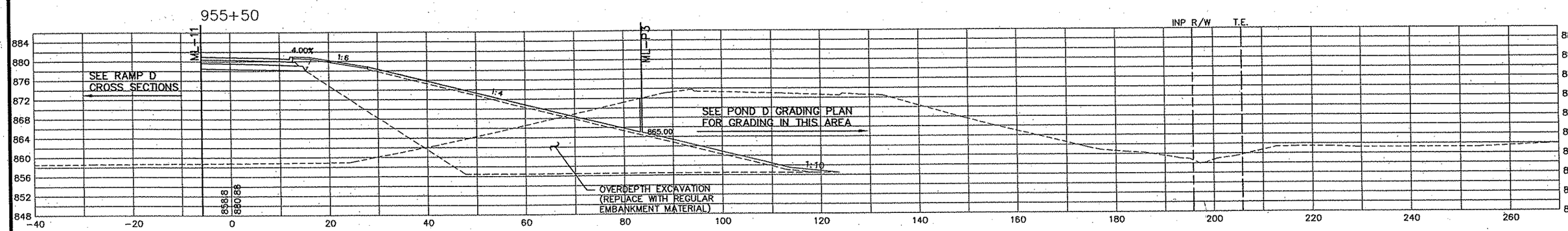
SHEET NO. 594 / 681

-ramp-D-CON-REV3
:34bdr

955+61.82



955+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRD-CON-2
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19581

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP D CONNECTION

CROSS SECTIONS
STATION 955+50.00 TO STATION 955+61.82

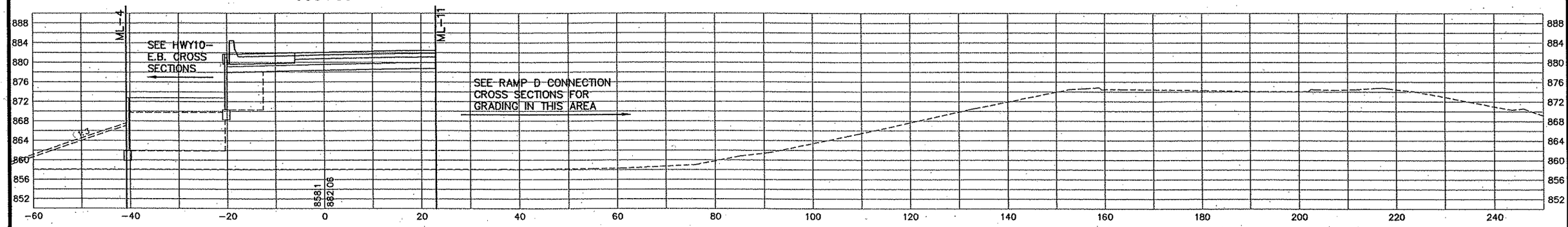
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 595 / 681

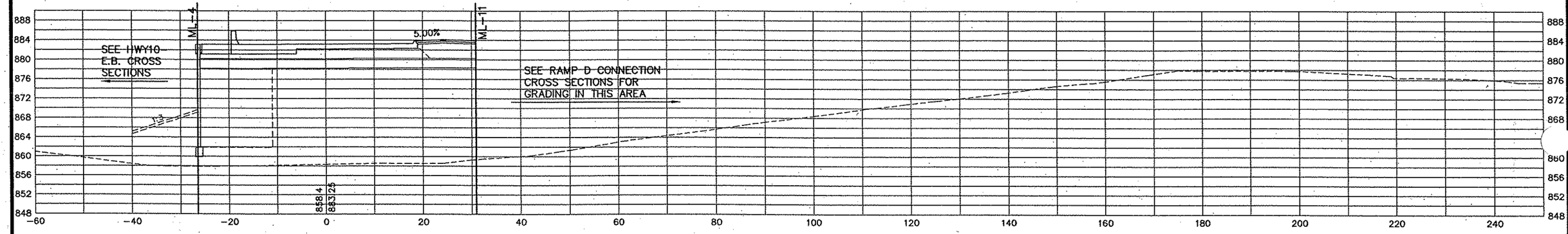
PLOT DATE: Jan 07 10:42am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-CON-02.dwg

Xref'd Drawings
042-RAMPd-CNTY
cs-ramp-D-REV3
22x34bdr

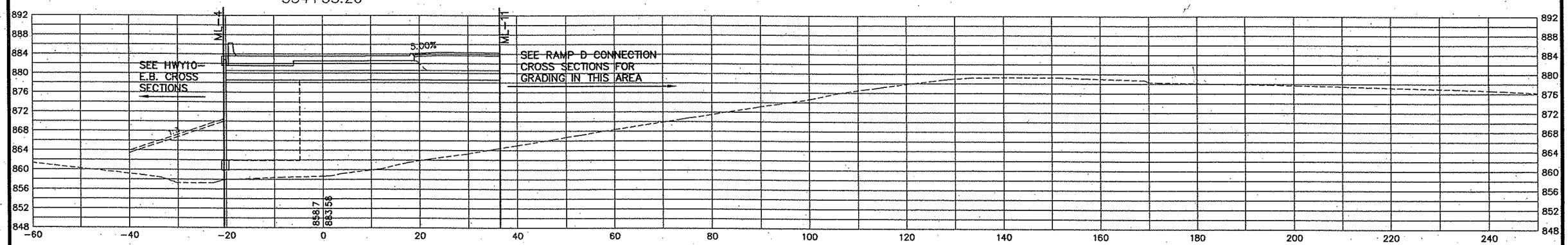
555+00



554+50



554+35.20



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRD-01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP D

CROSS SECTIONS
STATION 554+35.20 TO STATION 555+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 596 / 681

1 OF

PLOT DATE: Jan 07 10:41am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-01.dwg

Xref'd Drawings
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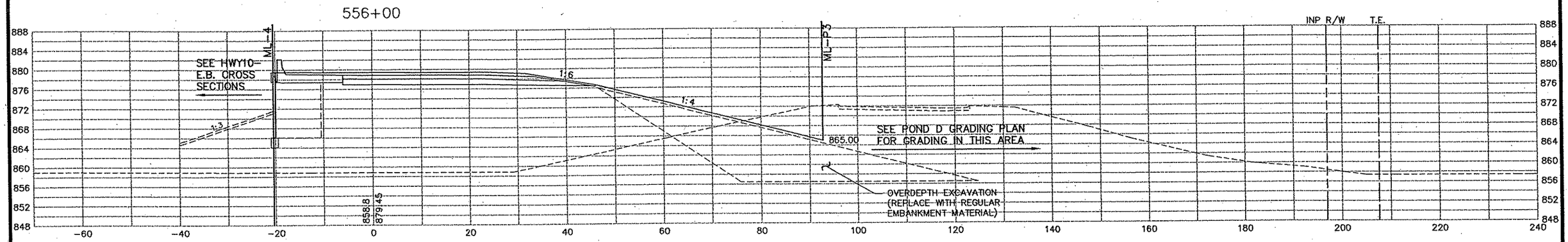
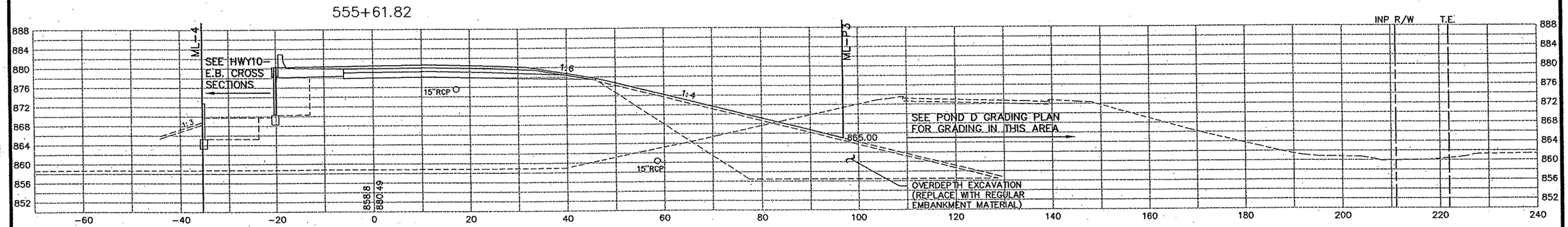
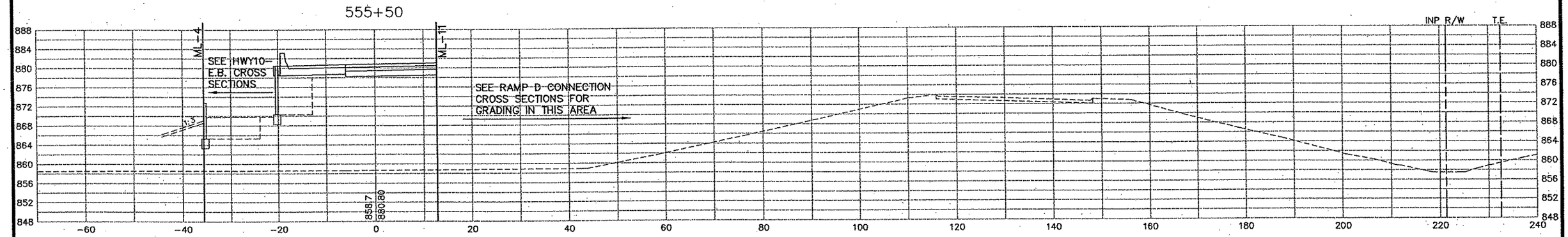
cs-ramp-D-R V3
22x34bdr







REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSRD-02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP D

CROSS SECTIONS
STATION 555+50.00 TO STATION 556+00.00

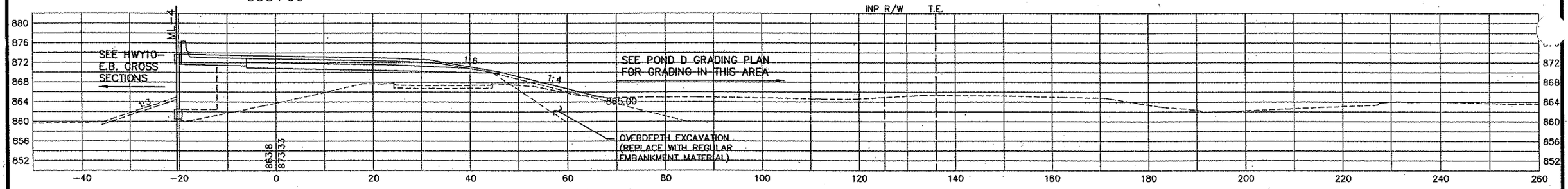
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 597 / 681

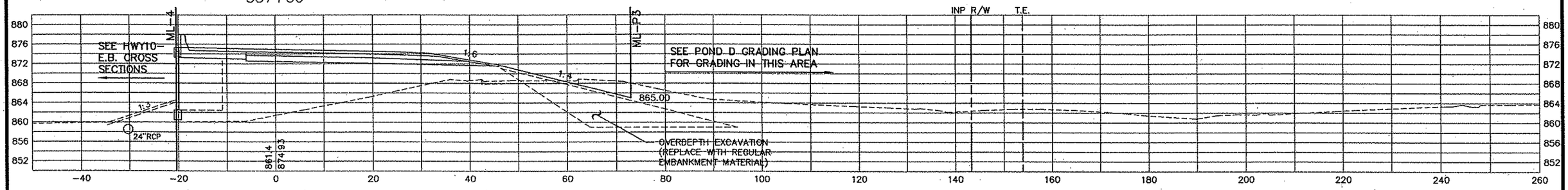
PLOT DATE: Jan JO7 10:42am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04[illegible]-02.dwg

-ramp-D-REV3
:34bdr

558+00



557+50



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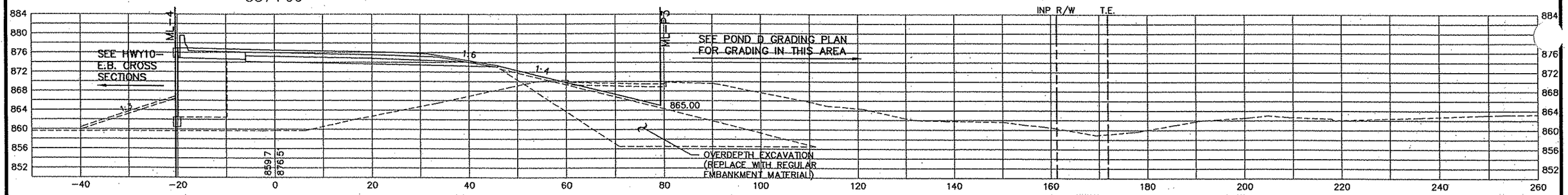
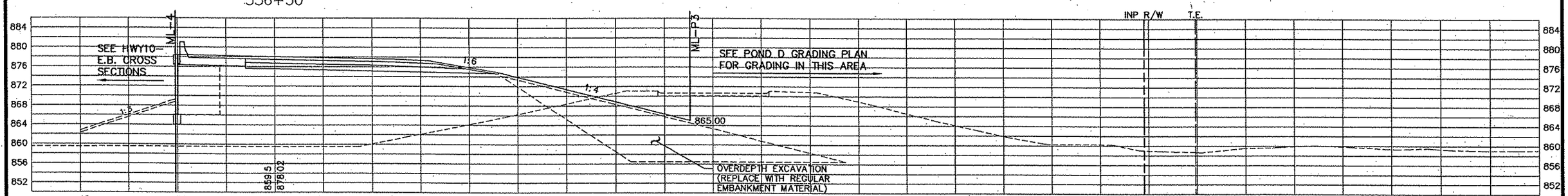


556+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRD-03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP D

CROSS SECTIONS
STATION 556+50.00 TO STATION 558+00.00

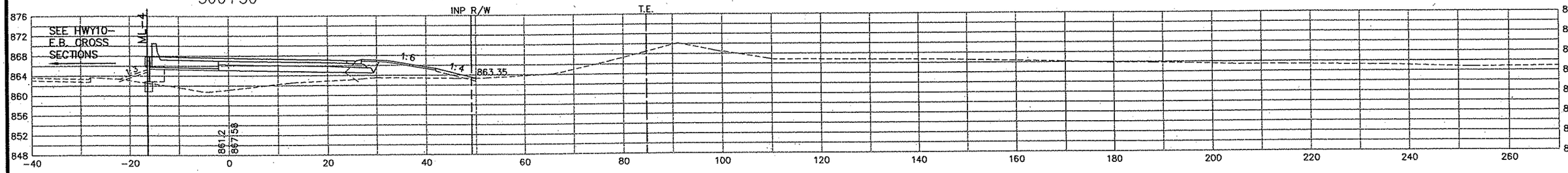
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 598 / 681

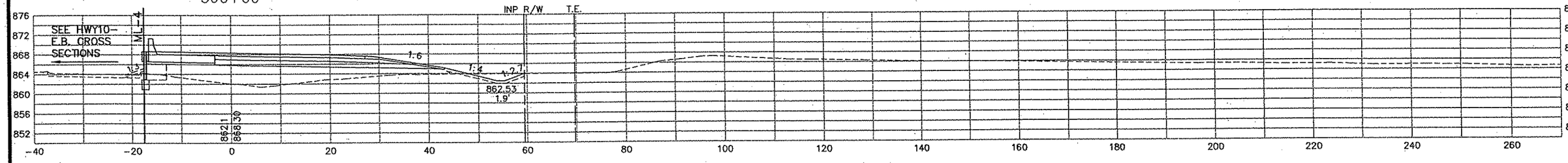
PLOT DATE: Jan 07 10:42am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-03.dwg

2.2\roll\Roadway\TH
-ramp-D-REV3
x34bdr

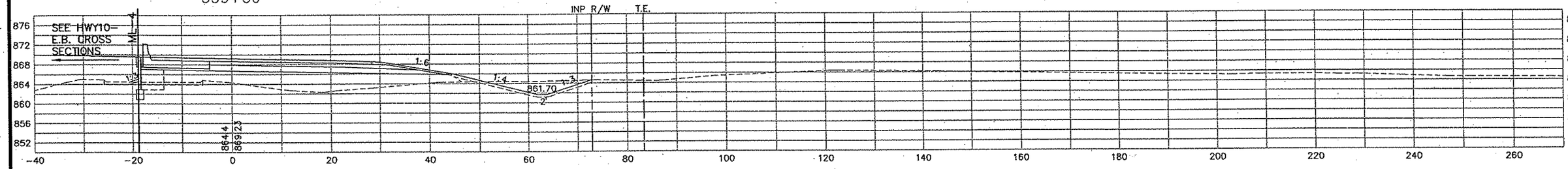
560+50



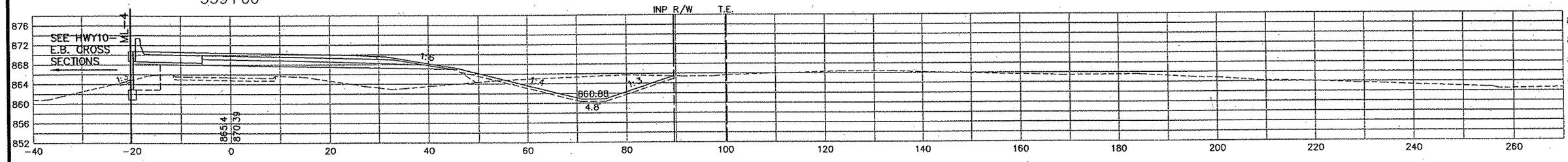
560+00



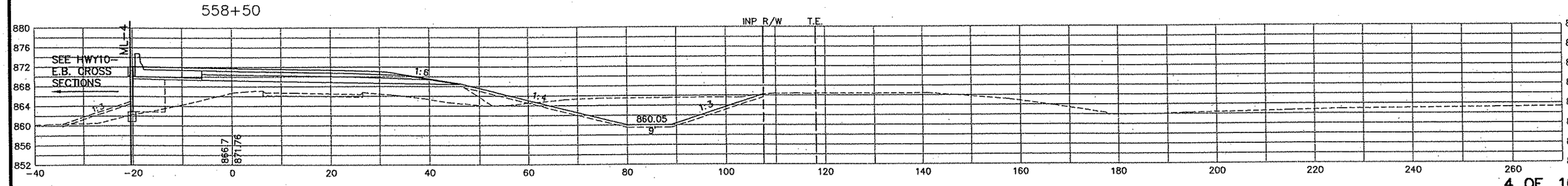
559+50



559+00



558+50



4 OF 10

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRD-04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP D

CROSS SECTIONS
STATION 558+50.00 TO STATION 560+50.00

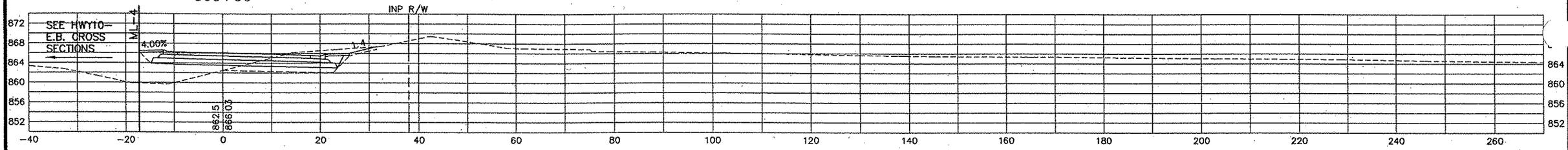
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 599 / 681

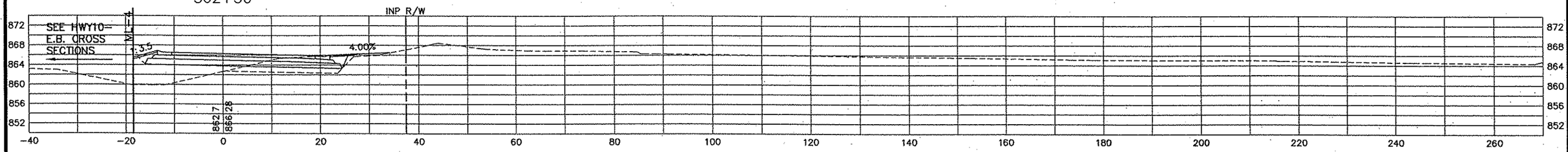
PLOT DATE: Jan 07 10:42am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-34.dwg

-ramp-D-REV3
c34bdr

563+00



562+50



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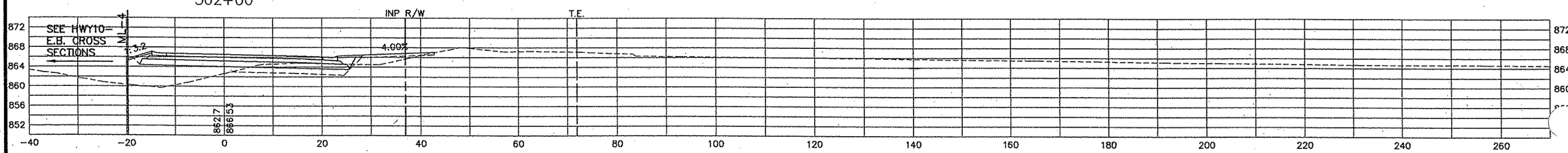
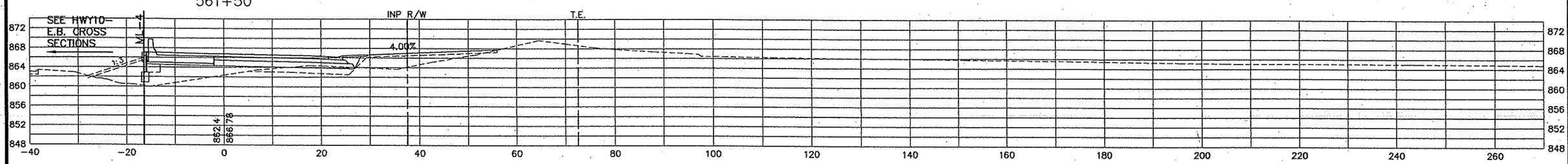
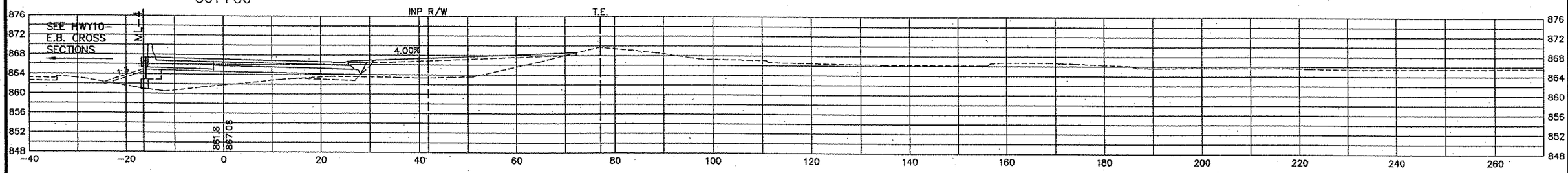


561+50



561+00



5 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRD-05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP D

CROSS SECTIONS
STATION 561+00.00 TO STATION 563+00.00

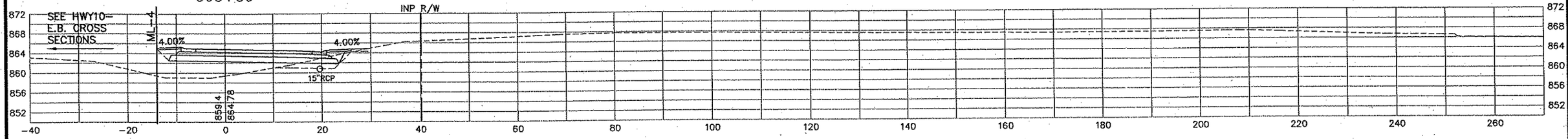
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 600 / 681

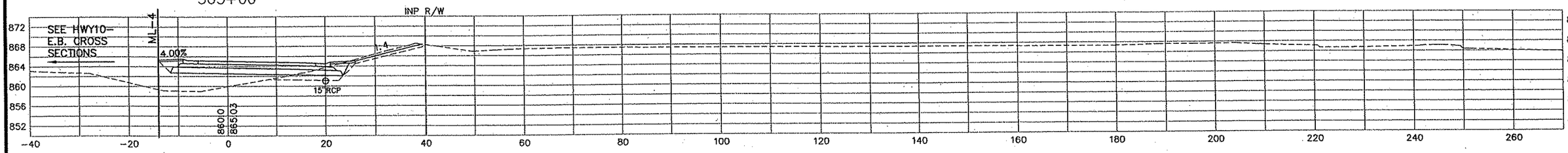
PLOT DATE: Jan 07 10:42am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-05.dwg

-ramp-D-REV3
x34bdr

565+50



565+00



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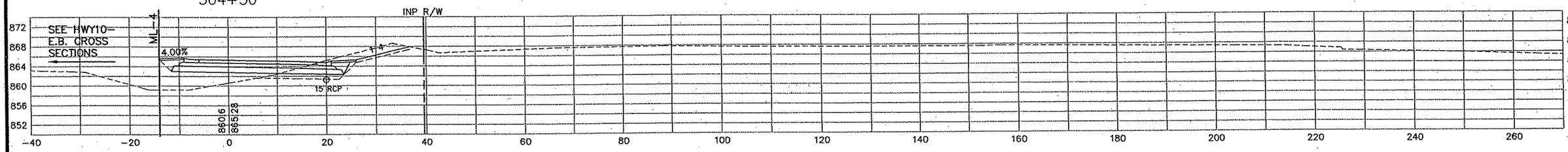
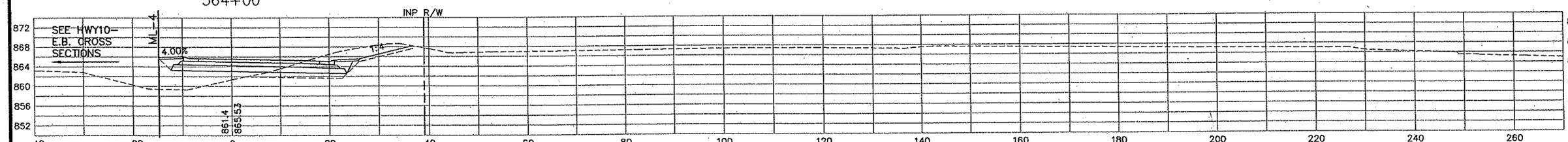
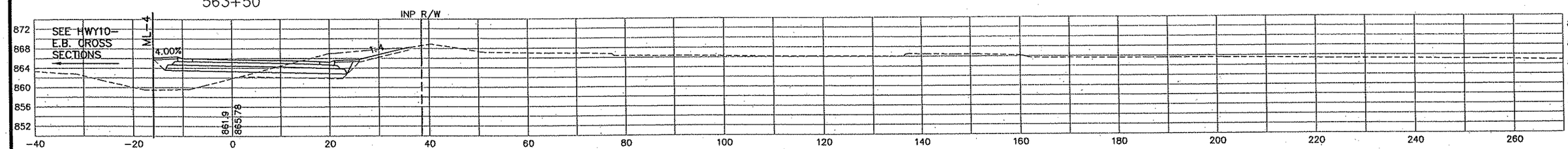


564+00



563+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: PMJ	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: CSRD-06
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP D

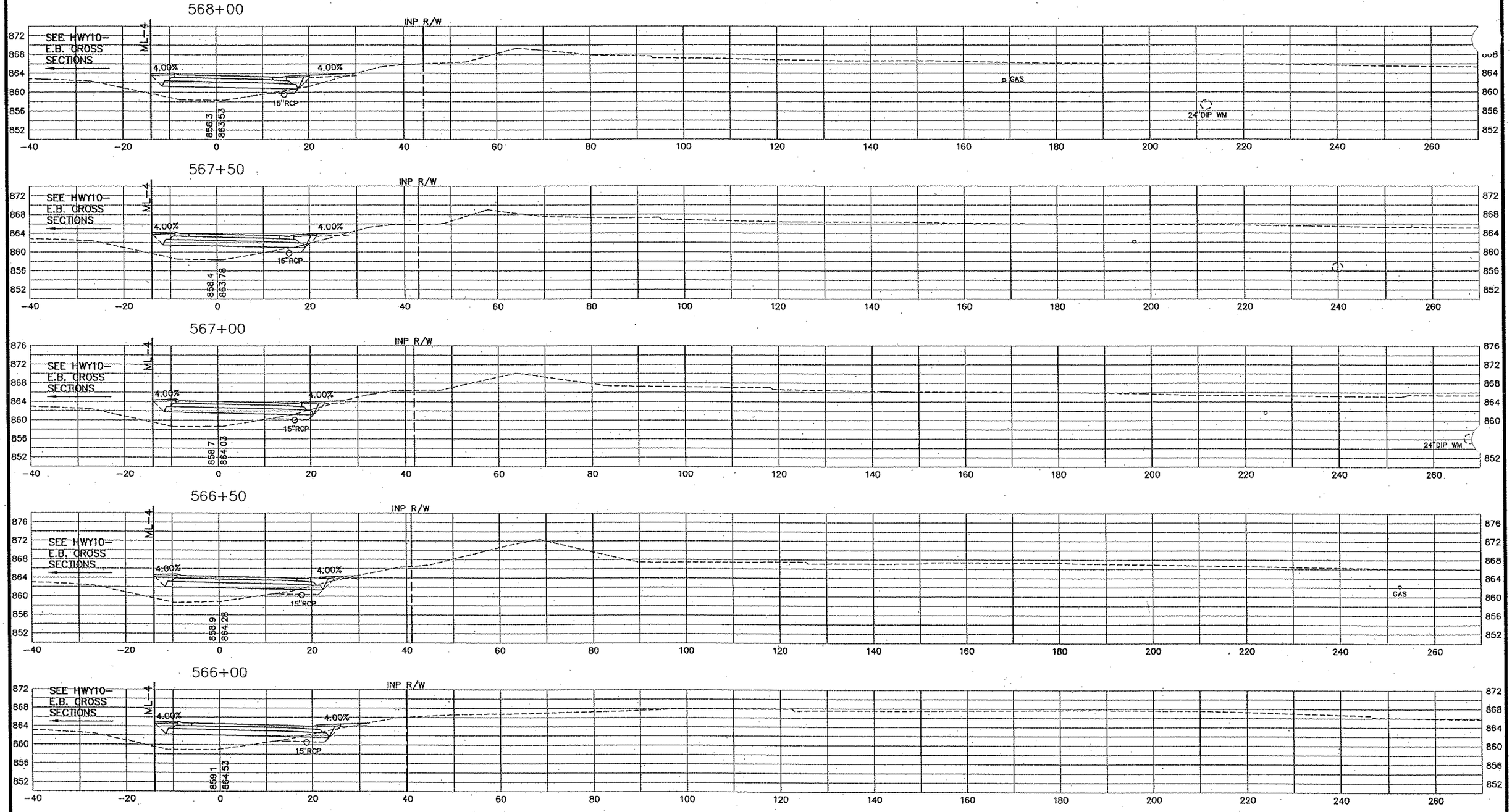
CROSS SECTIONS
STATION 563+50.00 TO STATION 565+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 601 / 681

PLOT DATE: Jan 8 07 10:42am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-

-ramp-D-REV3
t34bdr



PLOT DATE: Jan 17 10:42am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-07.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRD-07
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP D

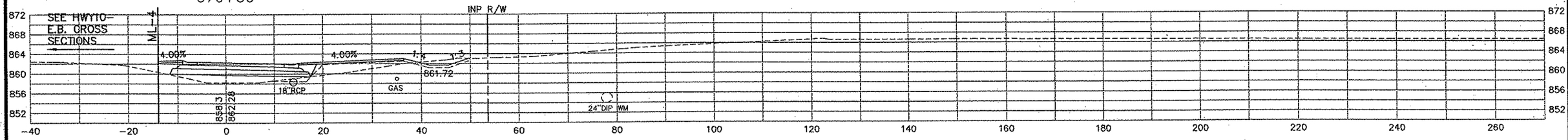
CROSS SECTIONS
STATION 566+00.00 TO STATION 568+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

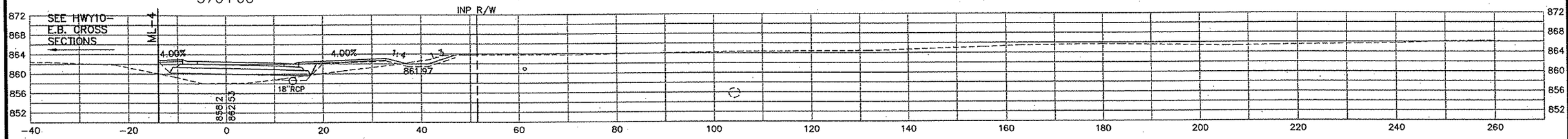
SHEET NO. 602 / 681

-ramp-D-REV3
i34bdr

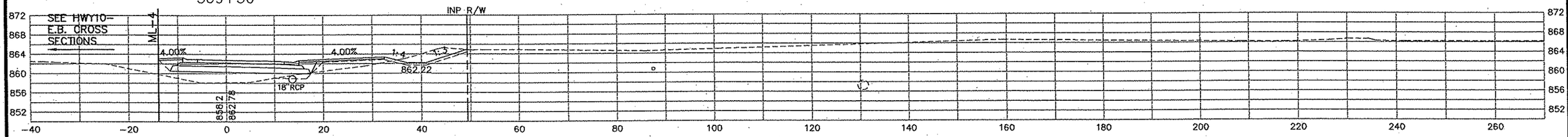
570+50



570+00



569+50



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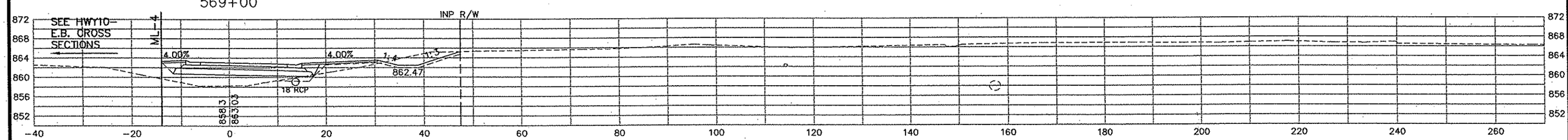
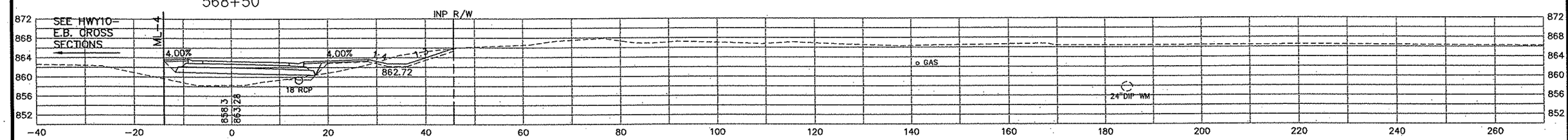


568+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRD-08
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP D

CROSS SECTIONS
STATION 568+50.00 TO STATION 570+50.00

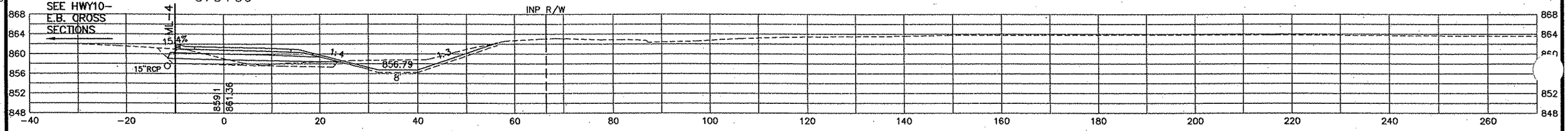
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 603 / 681

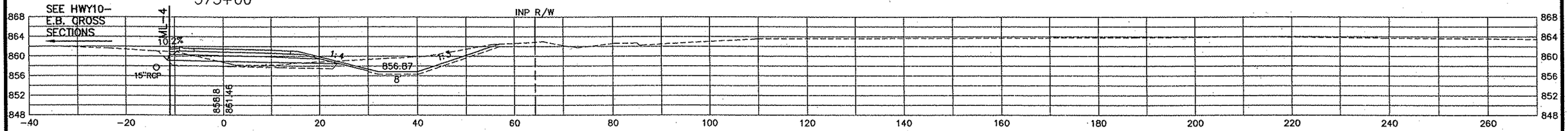
PLOT DATE: Jan 07 10:42am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04?-08.dwg

-ramp-D-REV3
:34bdr

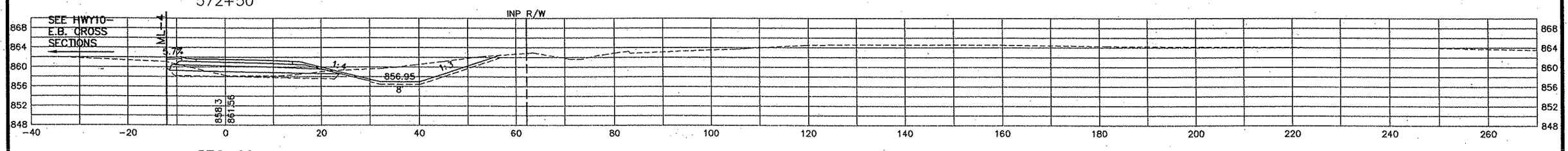
573+50



573+00



572+50



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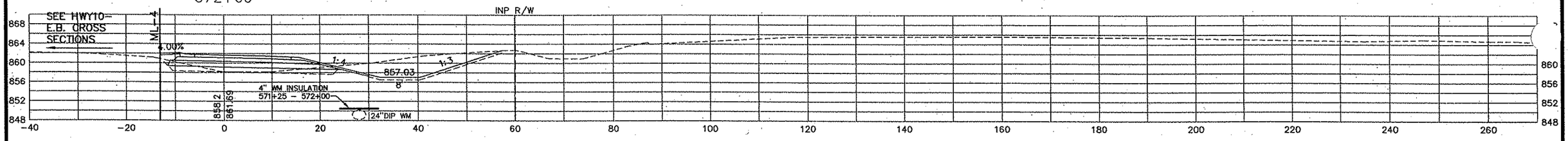
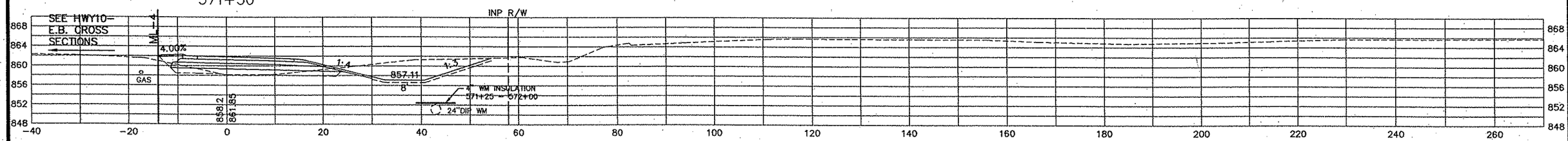
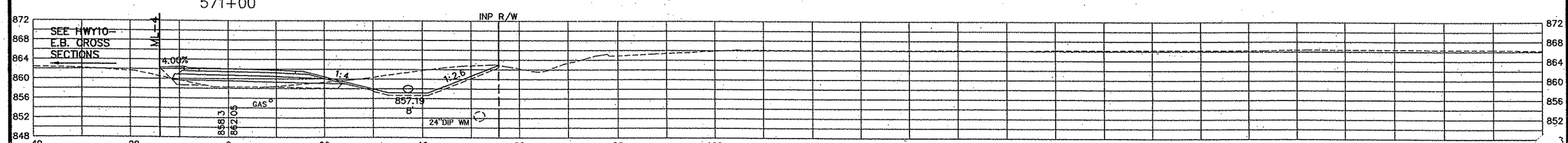


571+50



571+00



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRD-09
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP D

CROSS SECTIONS
STATION 571+00.00 TO STATION 573+50.00

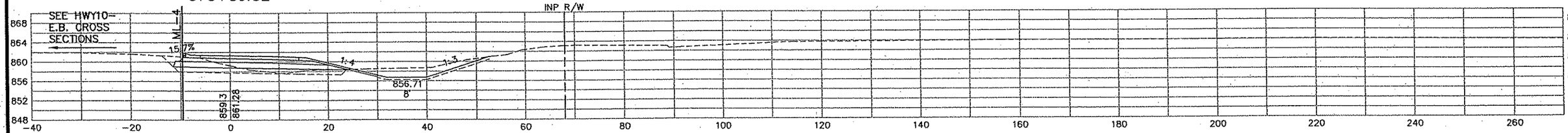
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 604 / 681

PLOT DATE: Jan 07 10:42am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-09.dwg

ramp-D-REV3
:34bdr

573+89.32



10 OF 10

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSRD-10
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

RAMP D

CROSS SECTIONS
STATION 573+89.32

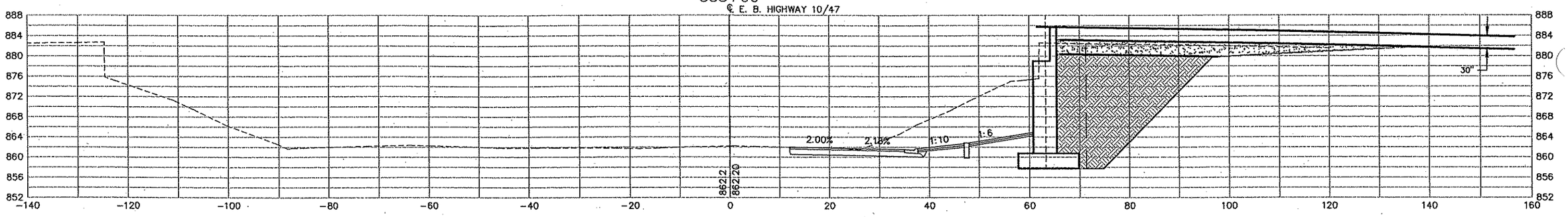
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 605 / 681

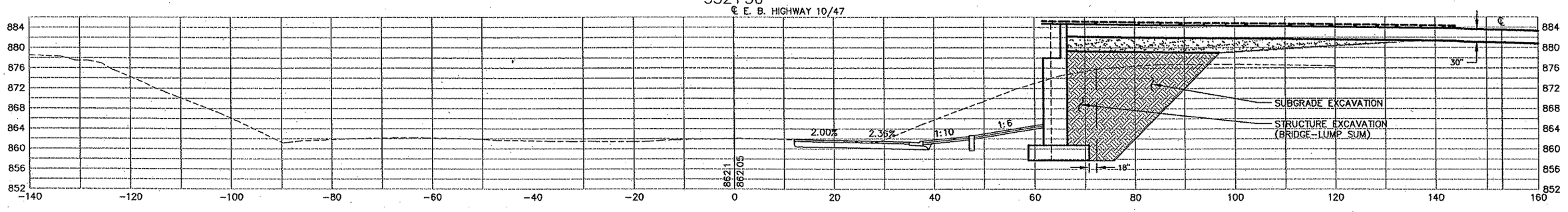
PLOT DATE: Jan 17 10:42am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10.dwg

Working Drawings
:34bdr

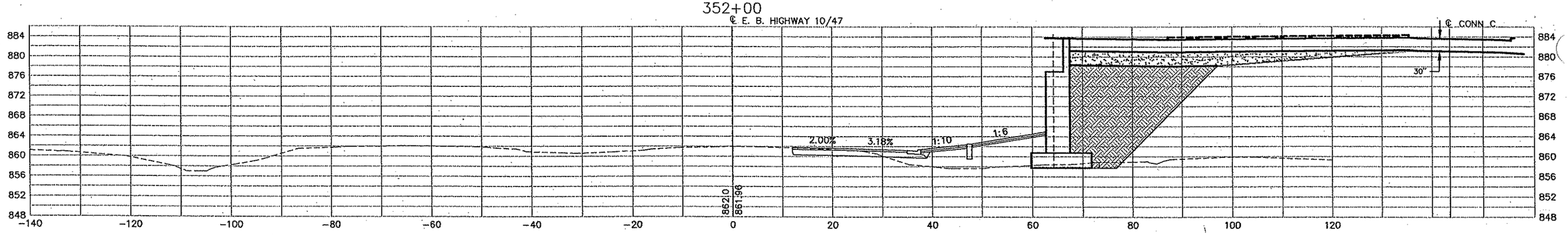
353+00



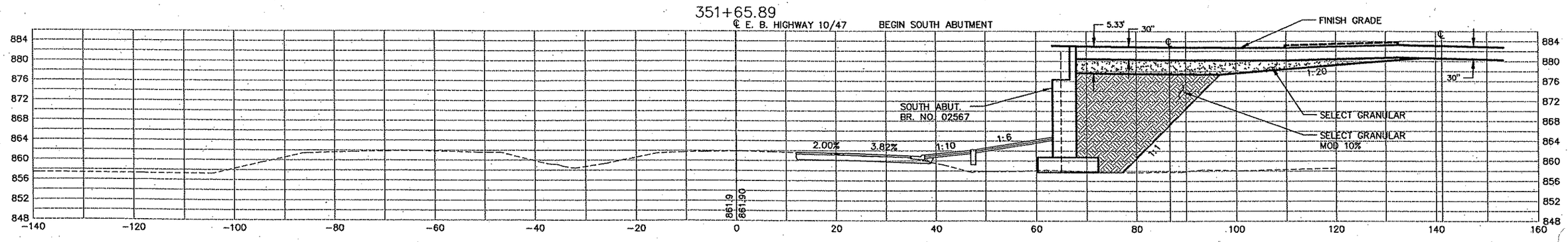
352+50



352+00



351+65.89



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889--042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: BDG-APR--01
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 E.B.

BRIDGE APPROACH TREATMENT CROSS SECTIONS
STATION 351+65.89 TO STATION 353+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

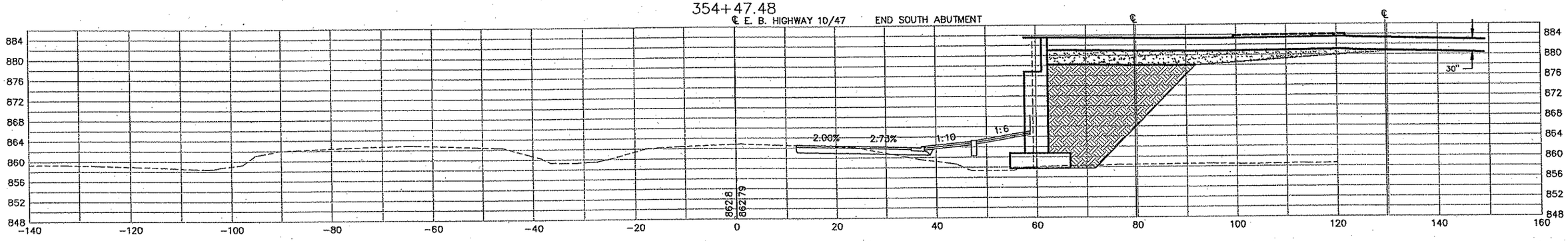
SHEET NO. 606 / 681

PLOT DATE: Jan 0 7 10:30am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-APR-01.dwg

Standard Drawings
34bdr

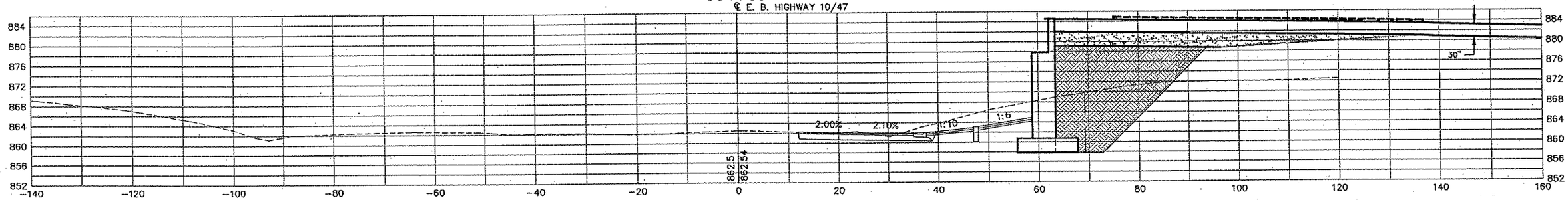
354+47.48

℄ E. B. HIGHWAY 10/47 END SOUTH ABUTMENT



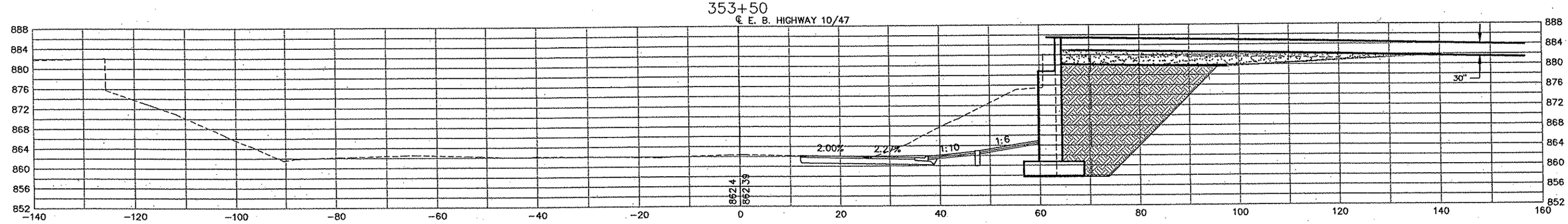
354+00

℄ E. B. HIGHWAY 10/47



353+50

℄ E. B. HIGHWAY 10/47



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: BDG-APR-02
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 E.B.

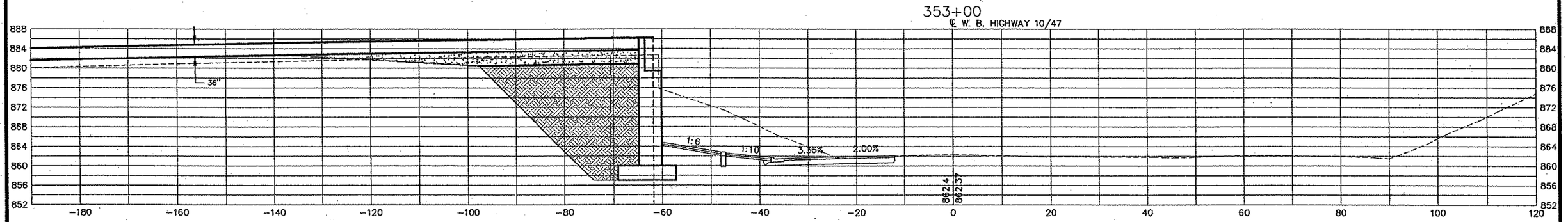
BRIDGE APPROACH TREATMENT CROSS SECTIONS
STATION 353+50.00 TO STATION 354+47.48

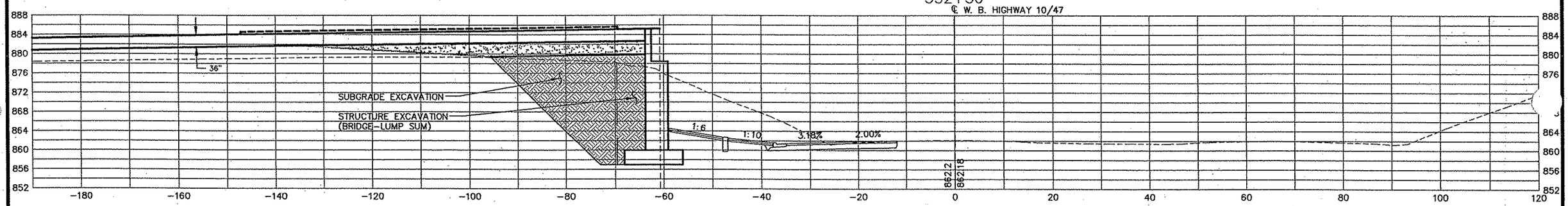
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

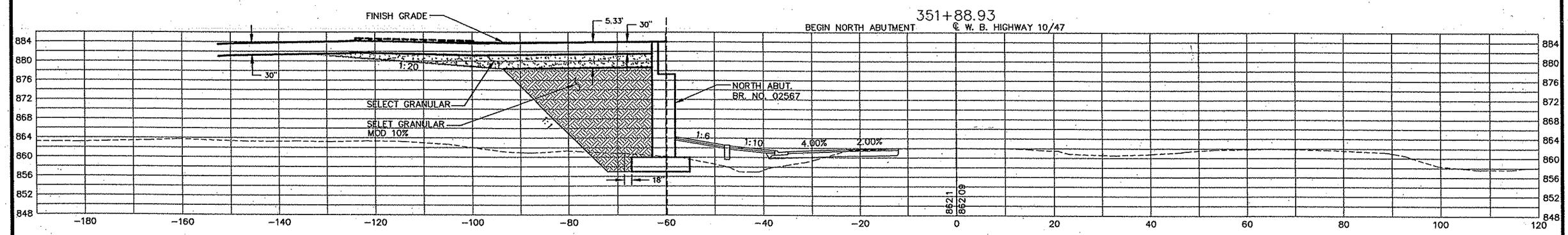
SHEET NO. 607 / 681

PLOT DATE: Jan 7 10:30am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-APR-02.dwg

Standard Drawings
c34bdr







REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889−042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: BDG−APR−03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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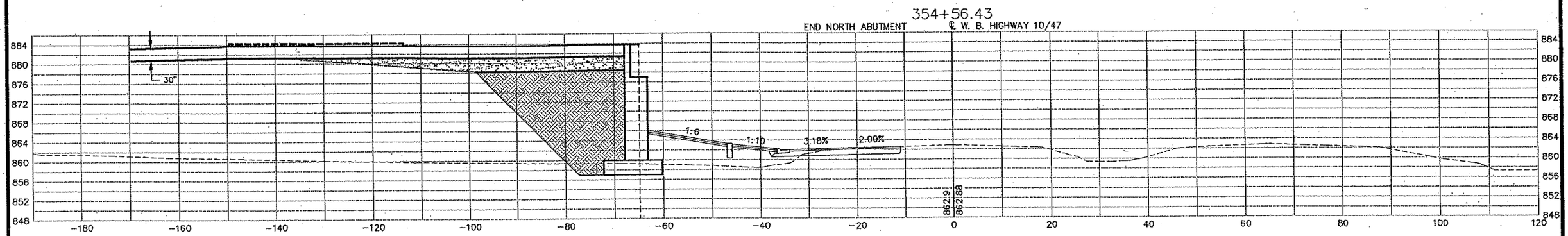
KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
HIGHWAY 10/47 W.B.
BRIDGE APPROACH TREATMENT CROSS SECTIONS
STATION 351+88.93 TO STATION 353+00.00

CITY PROJECT	01−31	S.P.	0215−59
S.P.	02−678−17	S.P.	02−611−29
		S.P.	114−020−28
		S.P.	114−010−14

SHEET NO. 608 / 681

PLOT DATE: Jan 17 10:30am DISK FILE NAME: (16.1) R:\33689\33889042\PLAN−SHT\CROSS−SECTIONS\042−APR−03.dwg



4 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: BDG-APR-04
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
HIGHWAY 10/47 W.B.
BRIDGE APPROACH TREATMENT CROSS SECTIONS
STATION 353+50.00 TO STATION 354+56.43

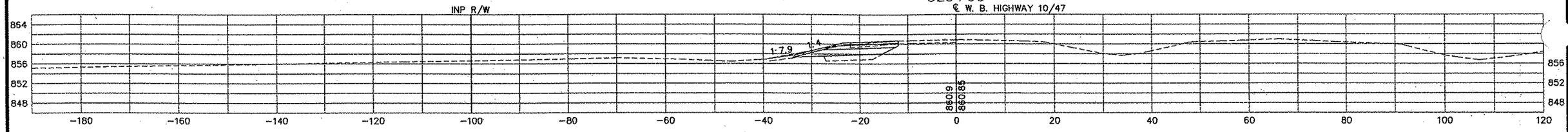
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 609 / 681

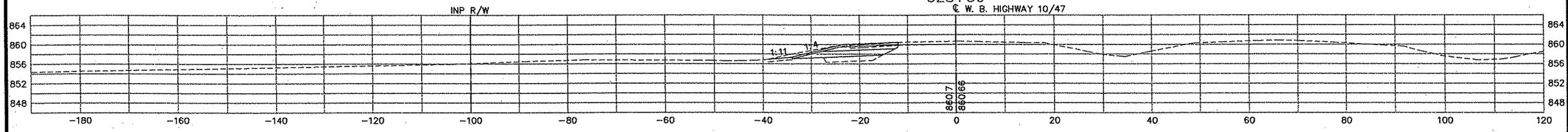
PLOT DATE: Jan 0 07 10:30am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042- -APR-04.dwg

Xrefs/Proxies:
-QNTY
hwy10
34bdr

329+00



328+50



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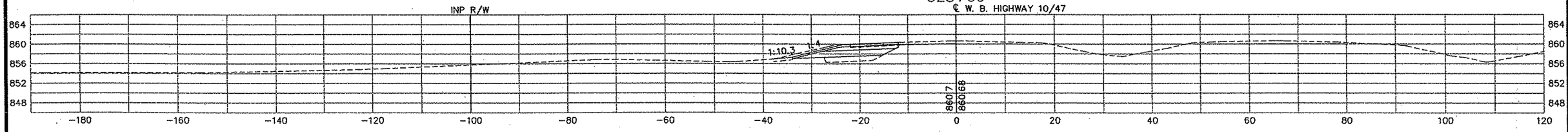
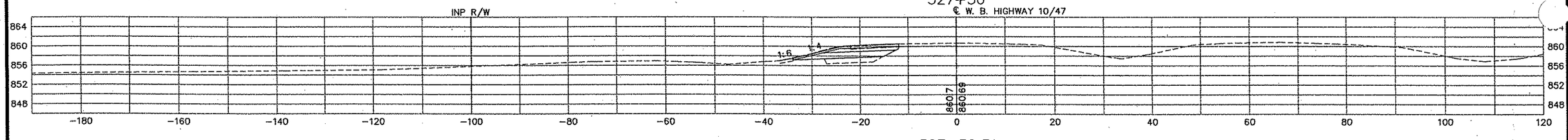
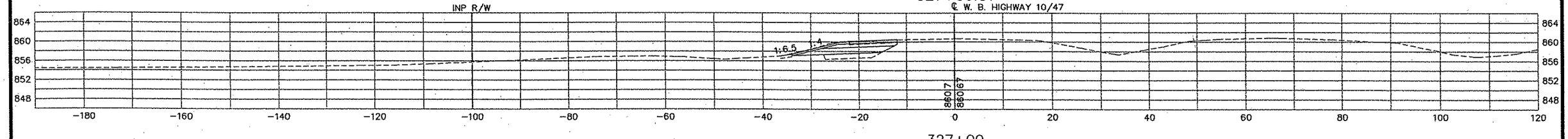


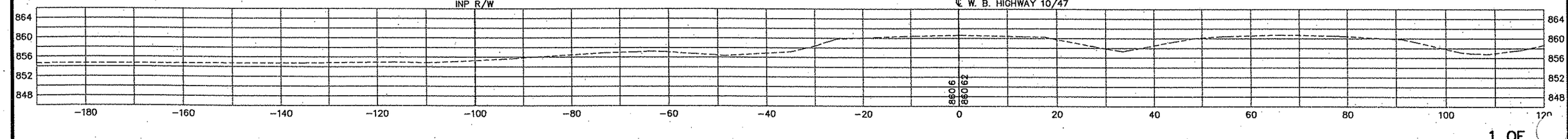
327+50



327+36.31



327+00



PLOT DATE: Jan 17 10:35am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-610-51.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: PMJ	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: CSHWY-51
DATE:	JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

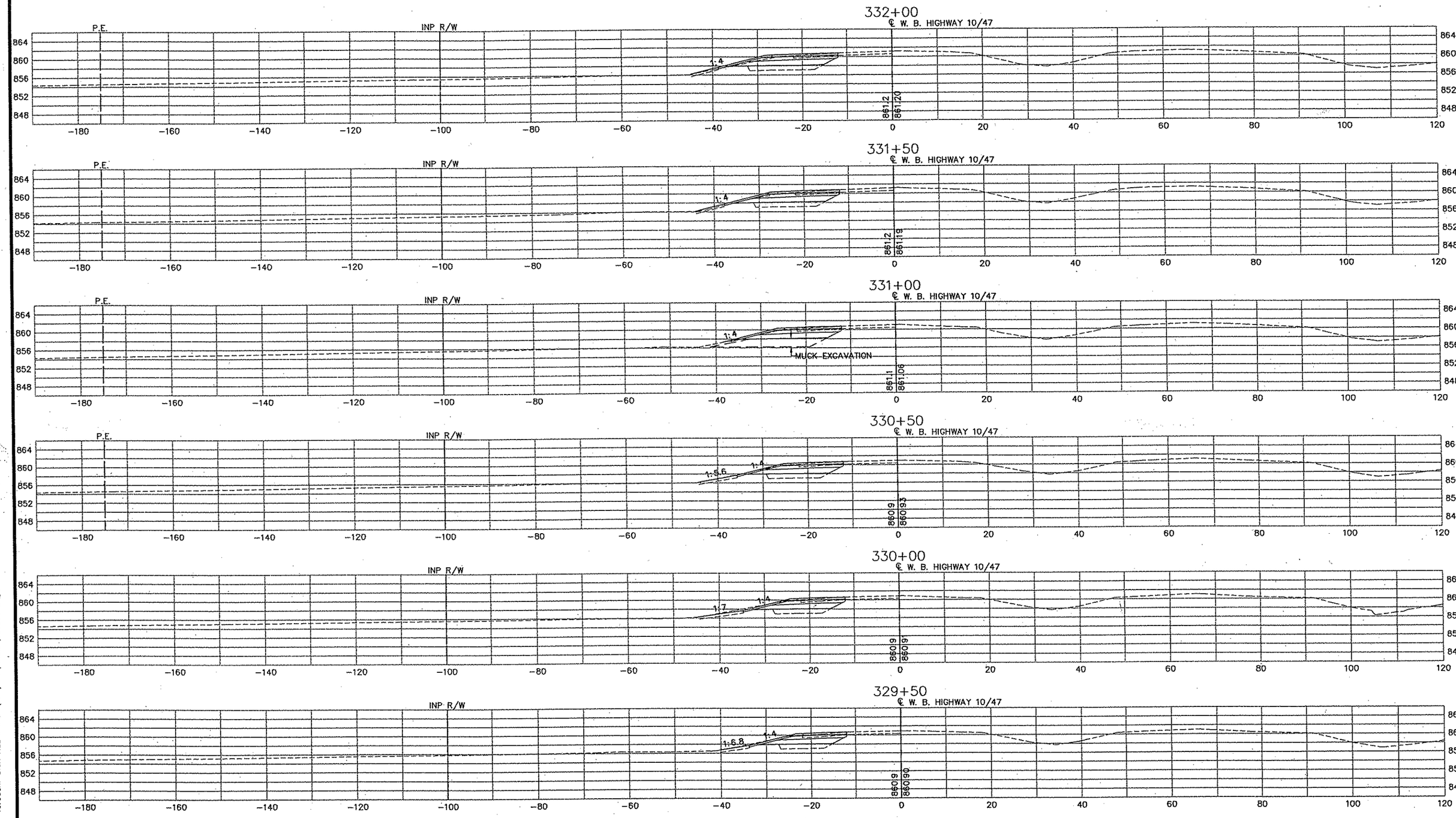
HIGHWAY 10/47 W.B.

CROSS SECTIONS
STATION 327+00.00 TO STATION 329+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 610 / 681

-QNTY
-hwy10
i34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY:	PMJ
DESIGN BY:	PMJ
CHKED. BY:	SAW
DWG. NAME:	CSHWY-52
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

CROSS SECTIONS
STATION 329+50.00 TO STATION 332+00.00

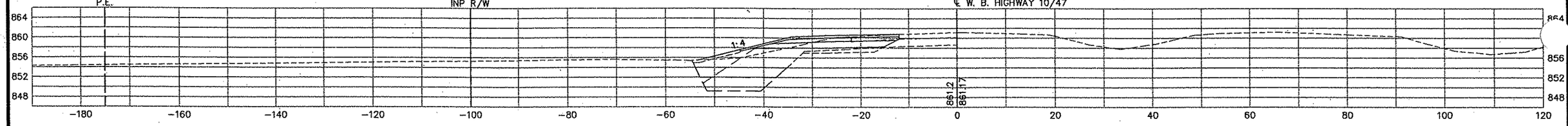
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 611 / 681

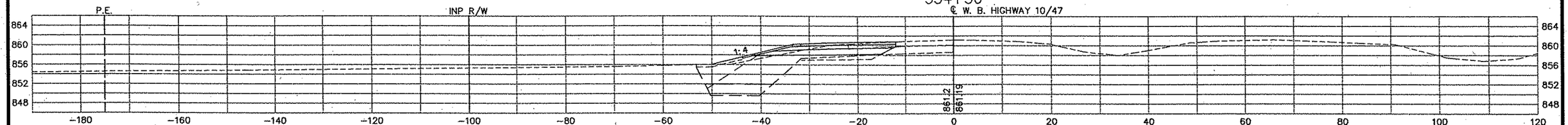
PLOT DATE: Jan 17 10:35am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-52.dwg

-QNTY
-hwy10
:34bdr

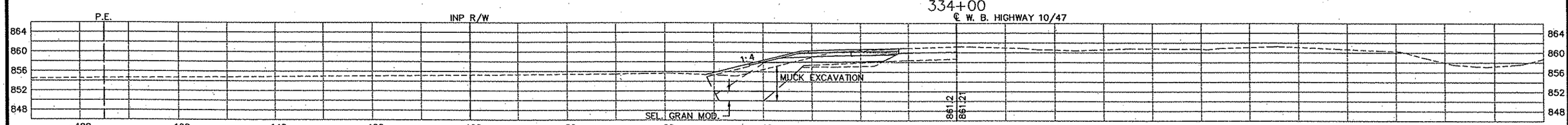
335+00
℄ W. B. HIGHWAY 10/47



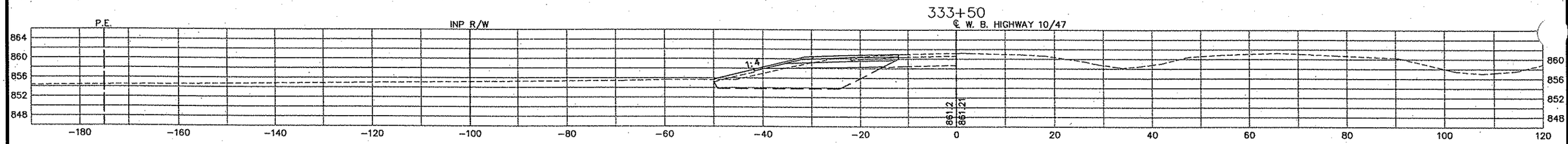
334+50
℄ W. B. HIGHWAY 10/47



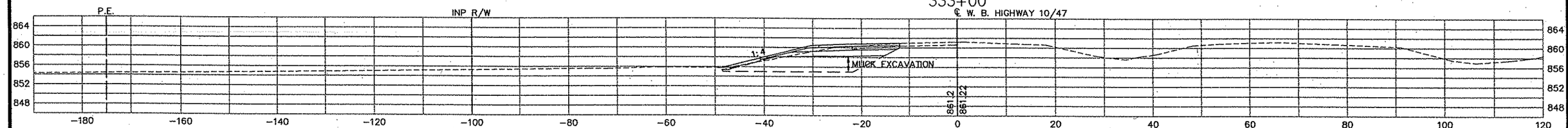
334+00
℄ W. B. HIGHWAY 10/47



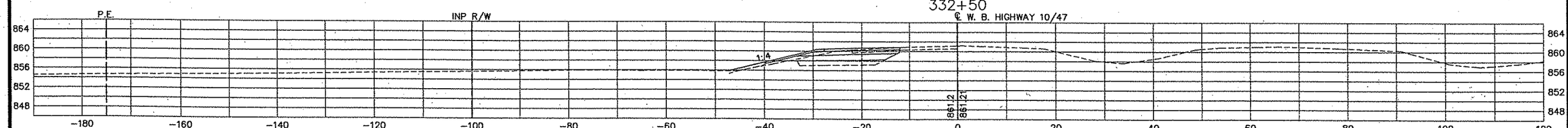
333+50
℄ W. B. HIGHWAY 10/47



333+00
℄ W. B. HIGHWAY 10/47



332+50
℄ W. B. HIGHWAY 10/47



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-53
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
HIGHWAY 10/47 W.B.

CROSS SECTIONS
STATION 332+50.00 TO STATION 335+00.00

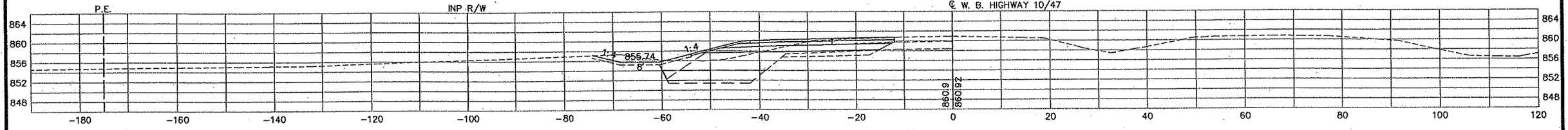
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 612 / 681

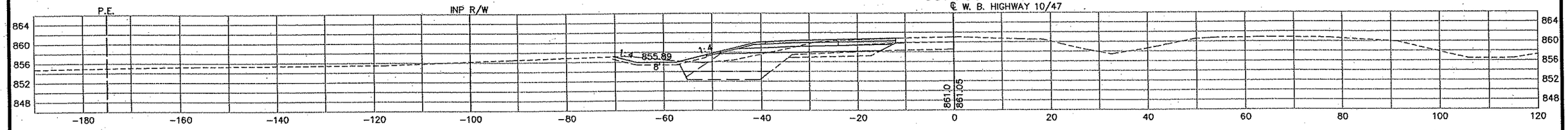
PLOT DATE: Jan 7 10:35am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-53.dwg

-QNTY
-hwy10
34bdr

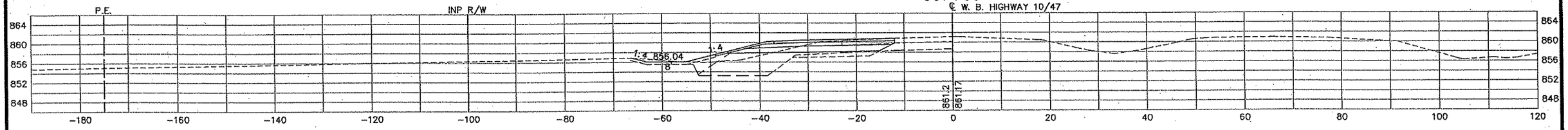
338+00
℄ W. B. HIGHWAY 10/47



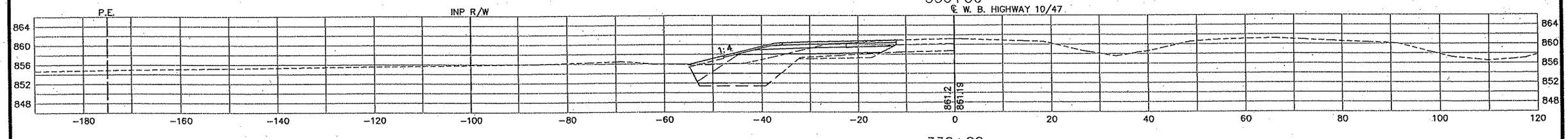
337+50
℄ W. B. HIGHWAY 10/47



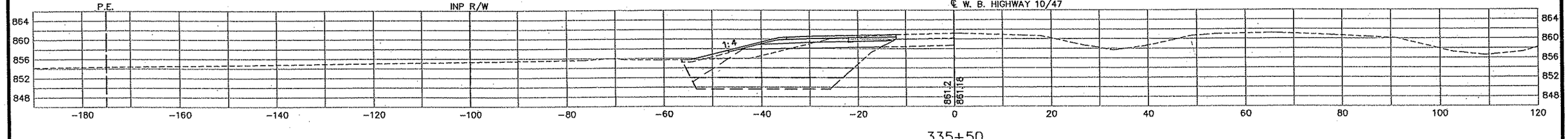
337+00
℄ W. B. HIGHWAY 10/47



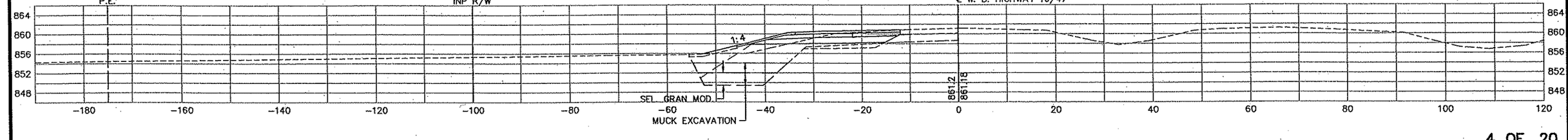
336+50
℄ W. B. HIGHWAY 10/47



336+00
℄ W. B. HIGHWAY 10/47



335+50
℄ W. B. HIGHWAY 10/47



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-54
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

CROSS SECTIONS
STATION 335+50.00 TO STATION 338+00.00

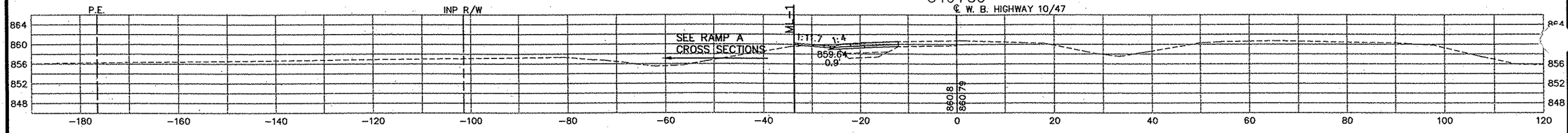
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 613 / 681

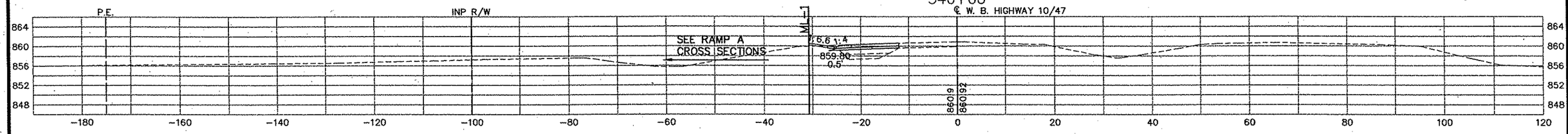
PLOT DATE: Jan 07, 10:35am DISK FILE NAME: (16,1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-54.dwg

-QNTY
-hwy10
:34bdr

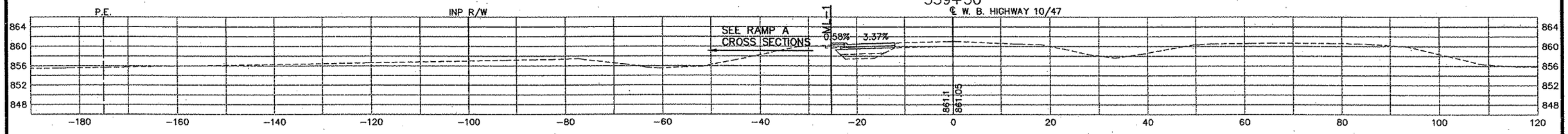
340+50
℄ W. B. HIGHWAY 10/47



340+00
℄ W. B. HIGHWAY 10/47



339+50
℄ W. B. HIGHWAY 10/47



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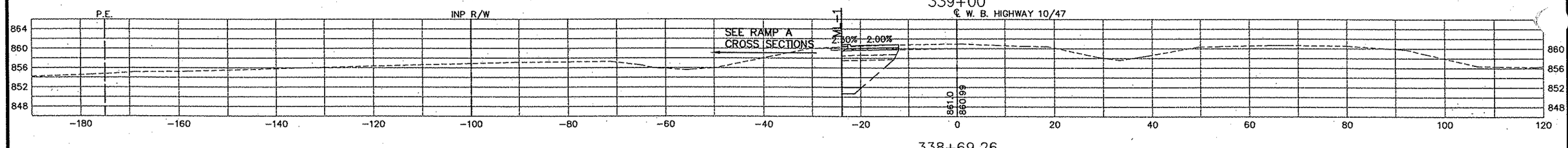
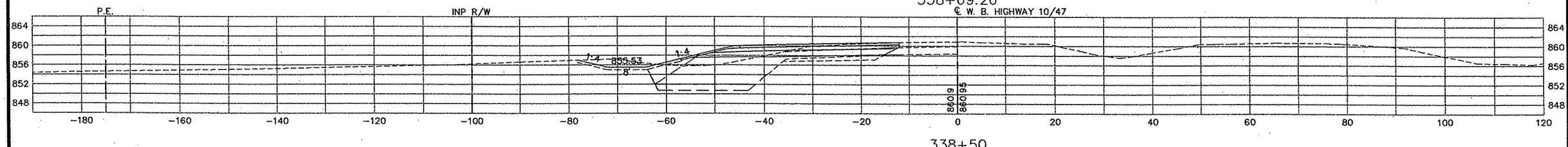
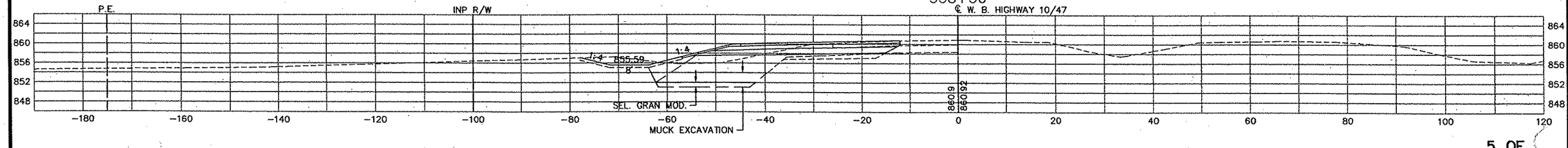
℄ W. B. HIGHWAY 10/47



338+69.26
℄ W. B. HIGHWAY 10/47



338+50
℄ W. B. HIGHWAY 10/47



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-55
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

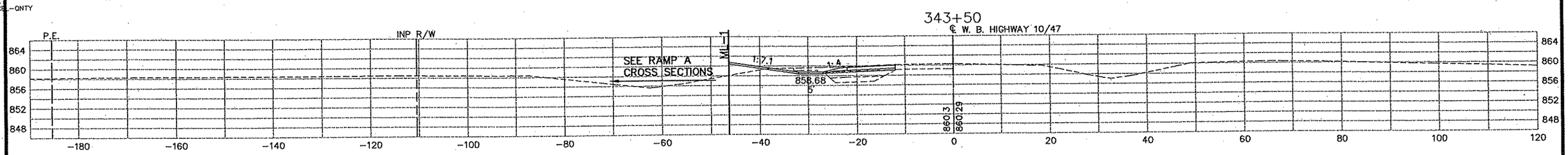
CROSS SECTIONS
STATION 338+50.00 TO STATION 340+50.00

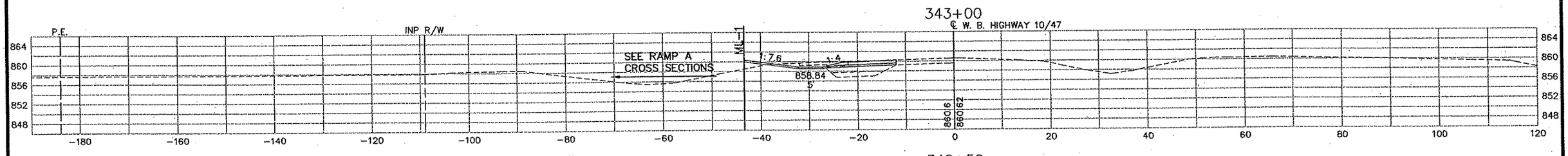
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

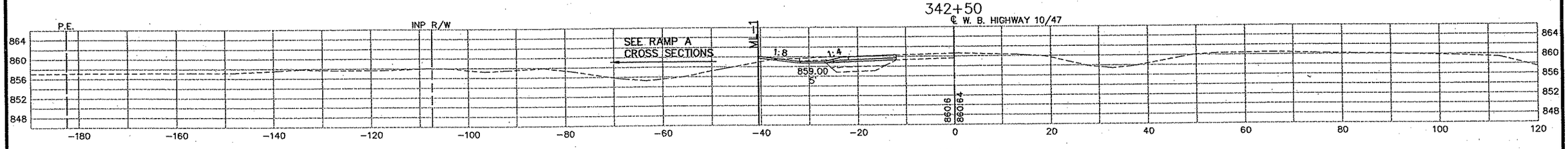
SHEET NO. 614 / 681
5 OF

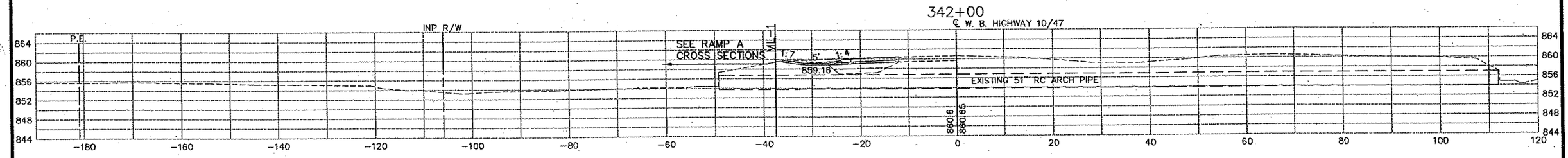
PLOT DATE: Jan 07 10:35am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-55.dwg

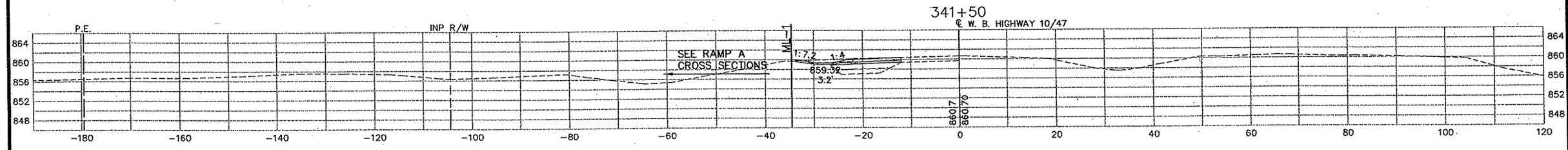
Xref'd Drawings
2-RAMPA-ACCESS-QNTY
-hwy10
<34bdr

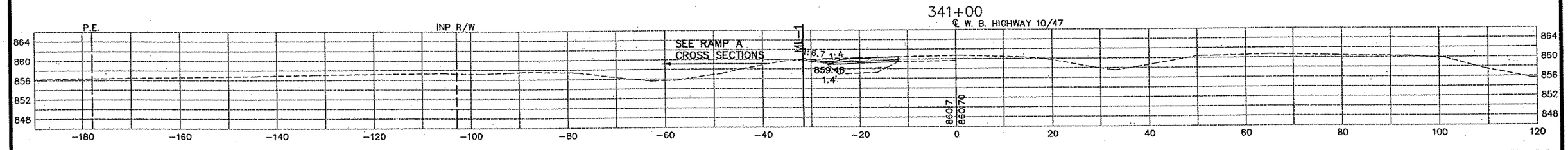












REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-56
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

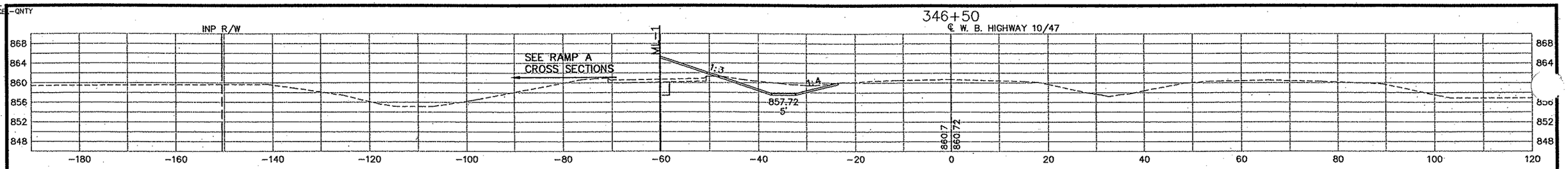
CROSS SECTIONS
STATION 341+00.00 TO STATION 343+50.00

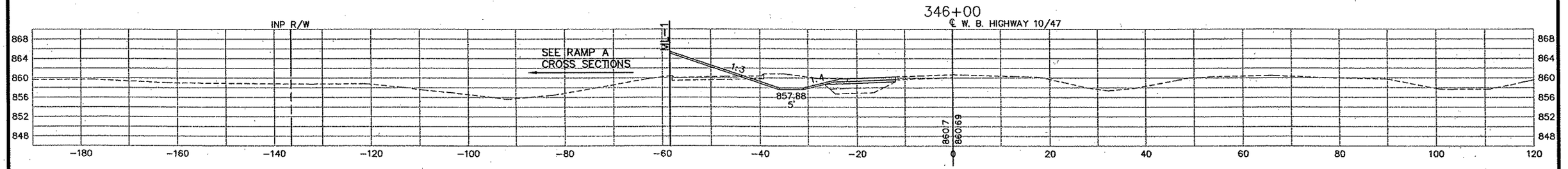
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

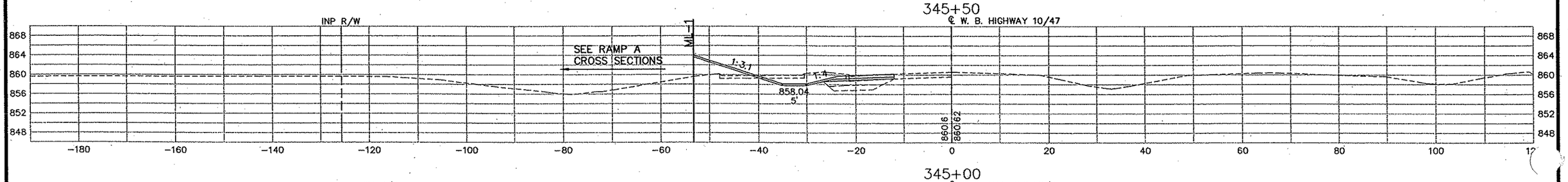
SHEET NO. 615 / 681

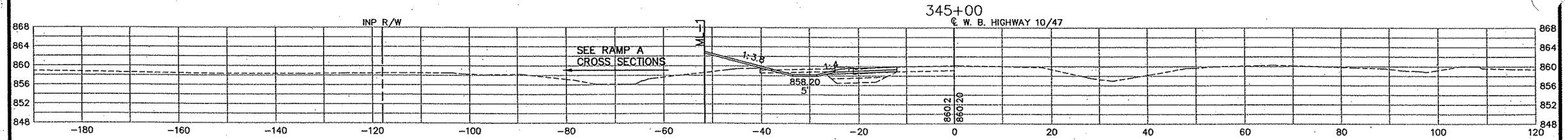
PLOT DATE: Jan 07 10:35am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-56.dwg

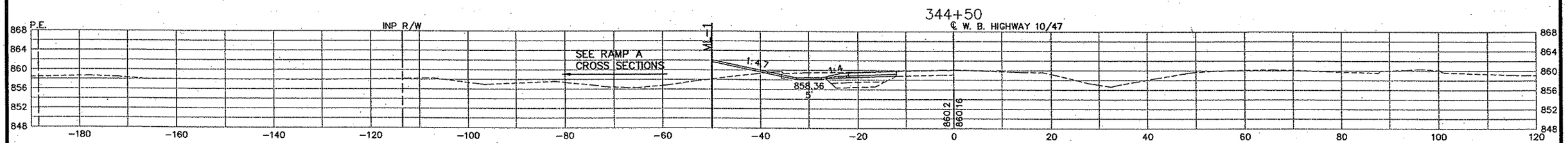
-QNTY
-hwy10
-34bdr

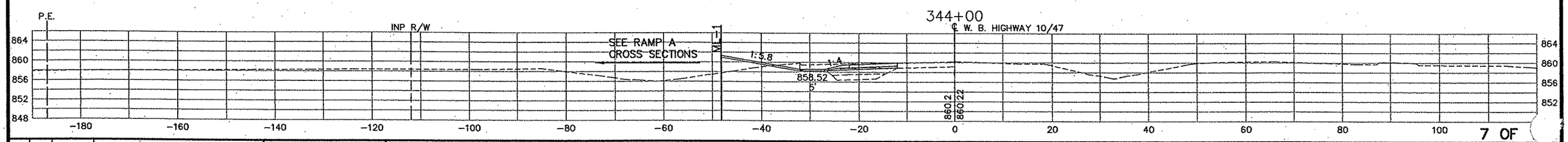












REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-57
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

CROSS SECTIONS
STATION 344+00.00 TO STATION 346+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 616 / 681

PLOT DATE: Jan 7 10:35am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-57.dwg

-QNTY
-hwy10
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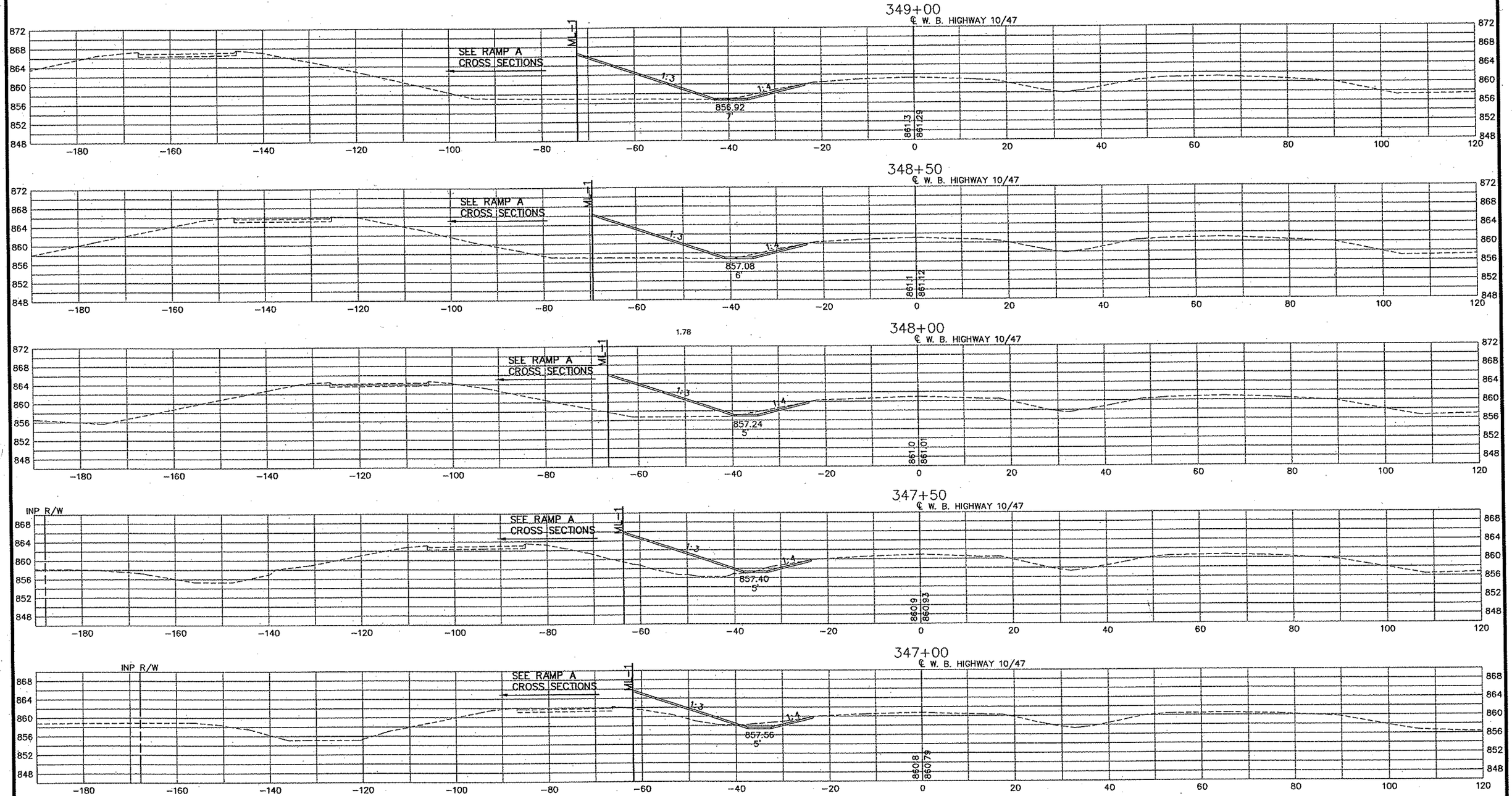


PLOT DATE: Jan 7 10:35am DISK FILE NAME: (16.1) R:\33689\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-58.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-58
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

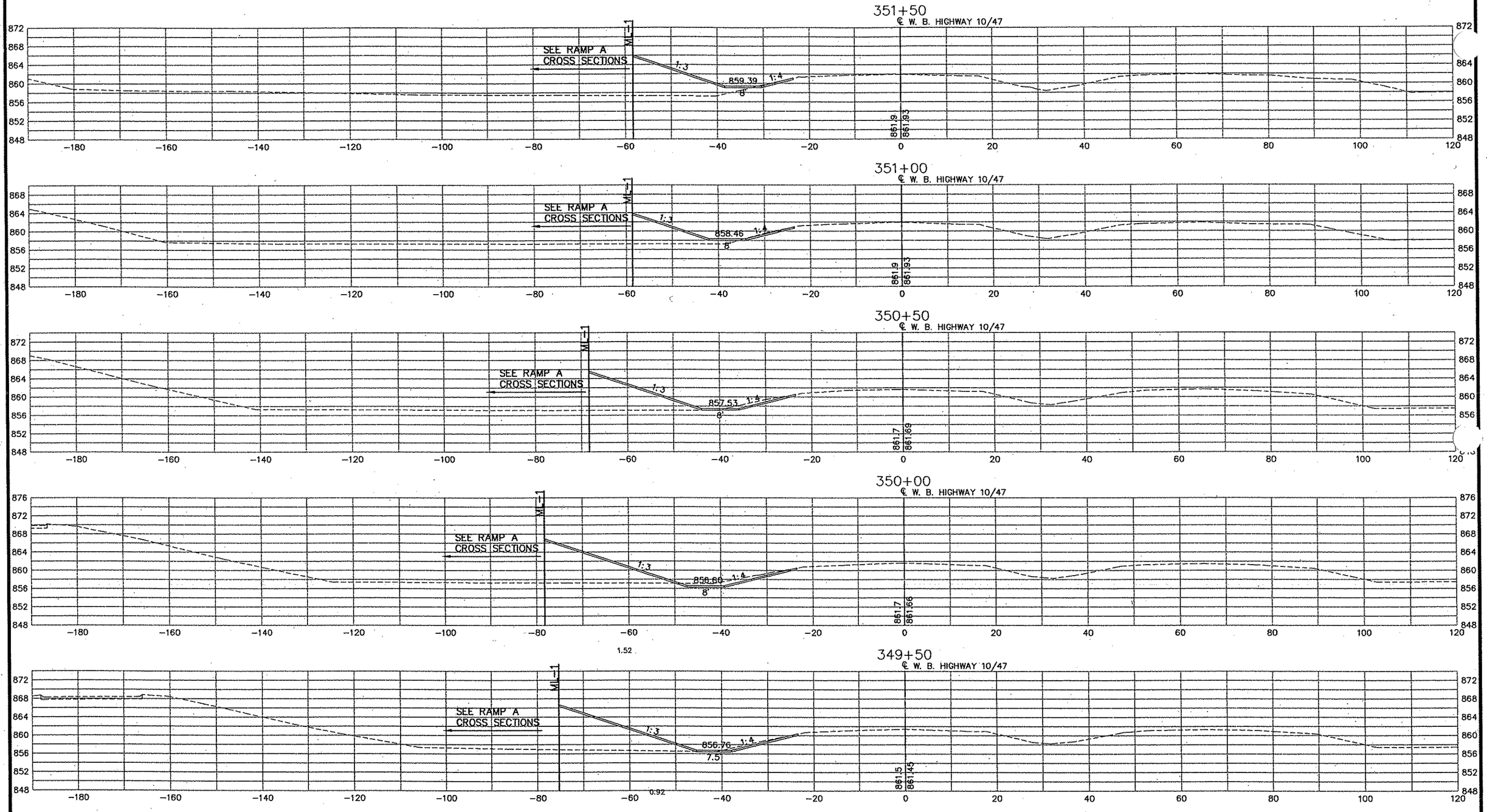
HIGHWAY 10/47 W.B.

CROSS SECTIONS
STATION 347+00.00 TO STATION 349+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 617 / 681

hwy10
34bdr



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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042	
DRAWN BY: PMJ	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: CSHWY-59
DATE: JANUARY 8, 2007	

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19661

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

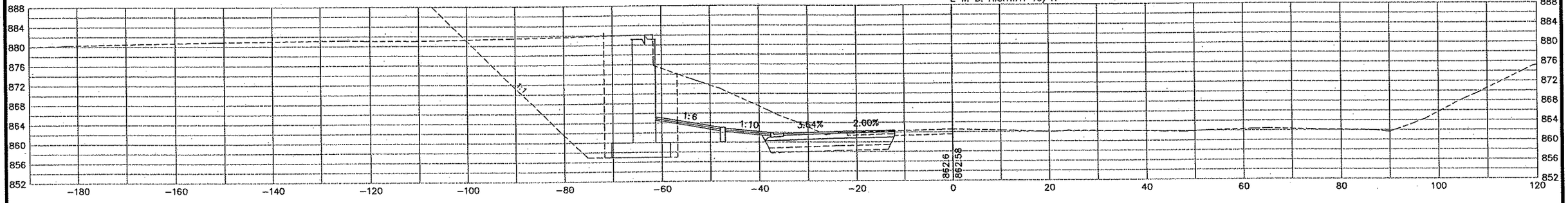
CROSS SECTIONS
STATION 349+50.00 TO STATION 351+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

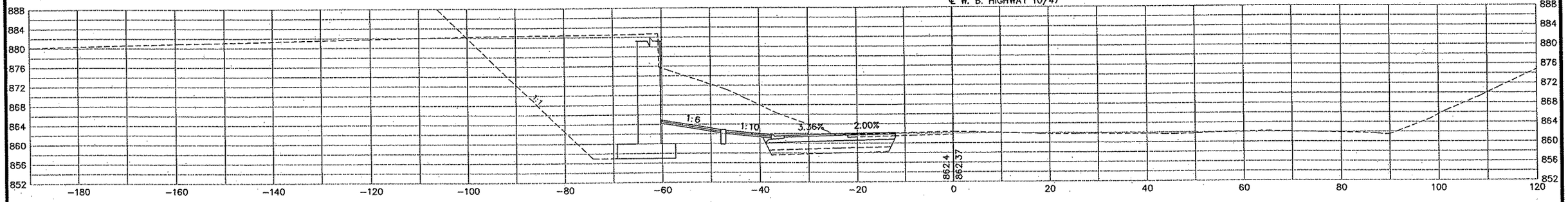
SHEET NO. 618 / 681

-QNTY
-RAMPA-ACCE-QNTY
-hwy10
t34bdr

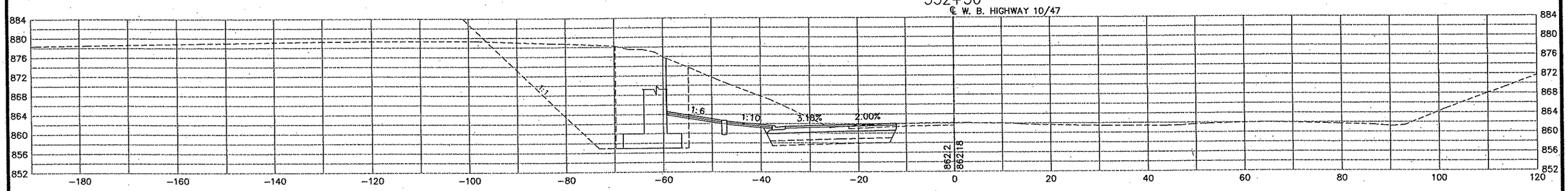
353+50
℄ W. B. HIGHWAY 10/47



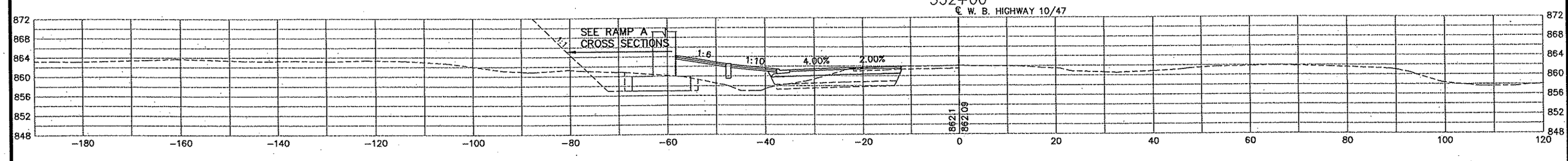
353+00
℄ W. B. HIGHWAY 10/47



352+50
℄ W. B. HIGHWAY 10/47



352+00
℄ W. B. HIGHWAY 10/47



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED: BY: SAW | DWG. NAME: CSHWY-60
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

CROSS SECTIONS
STATION 352+00.00 TO STATION 353+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 619 / 681

PLOT DATE: Jan 6 7 10:36am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-60.dwg

-QNTY
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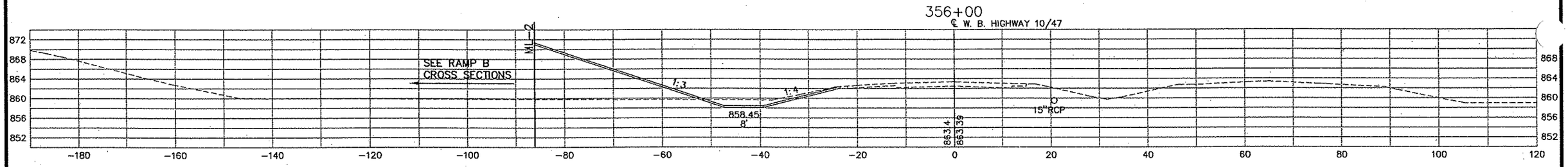
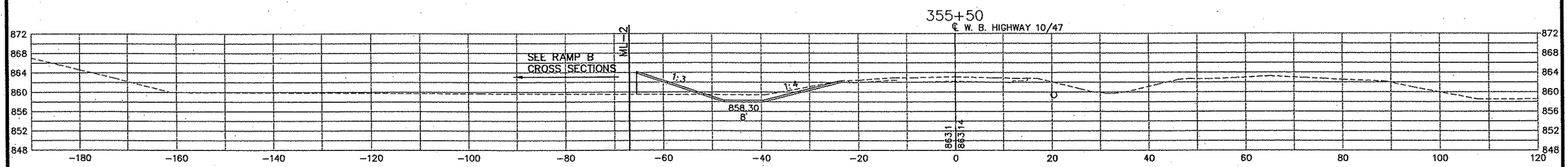
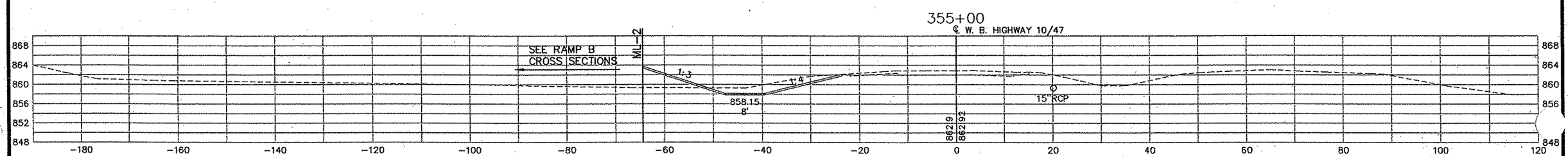
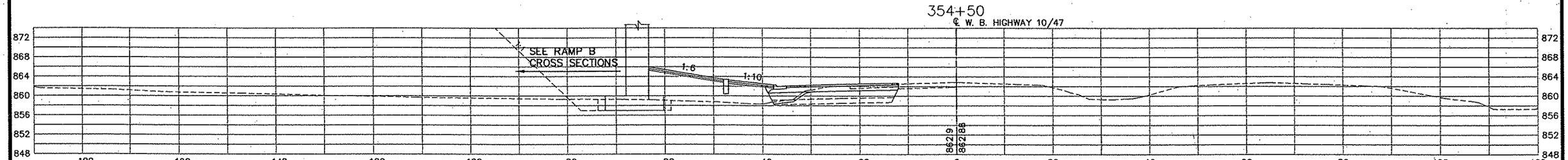
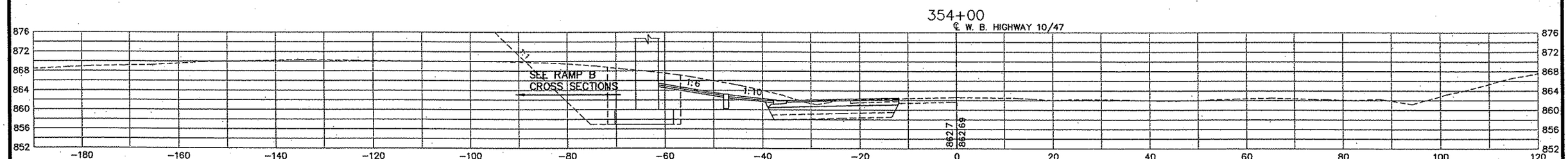
-346dr











REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-61
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

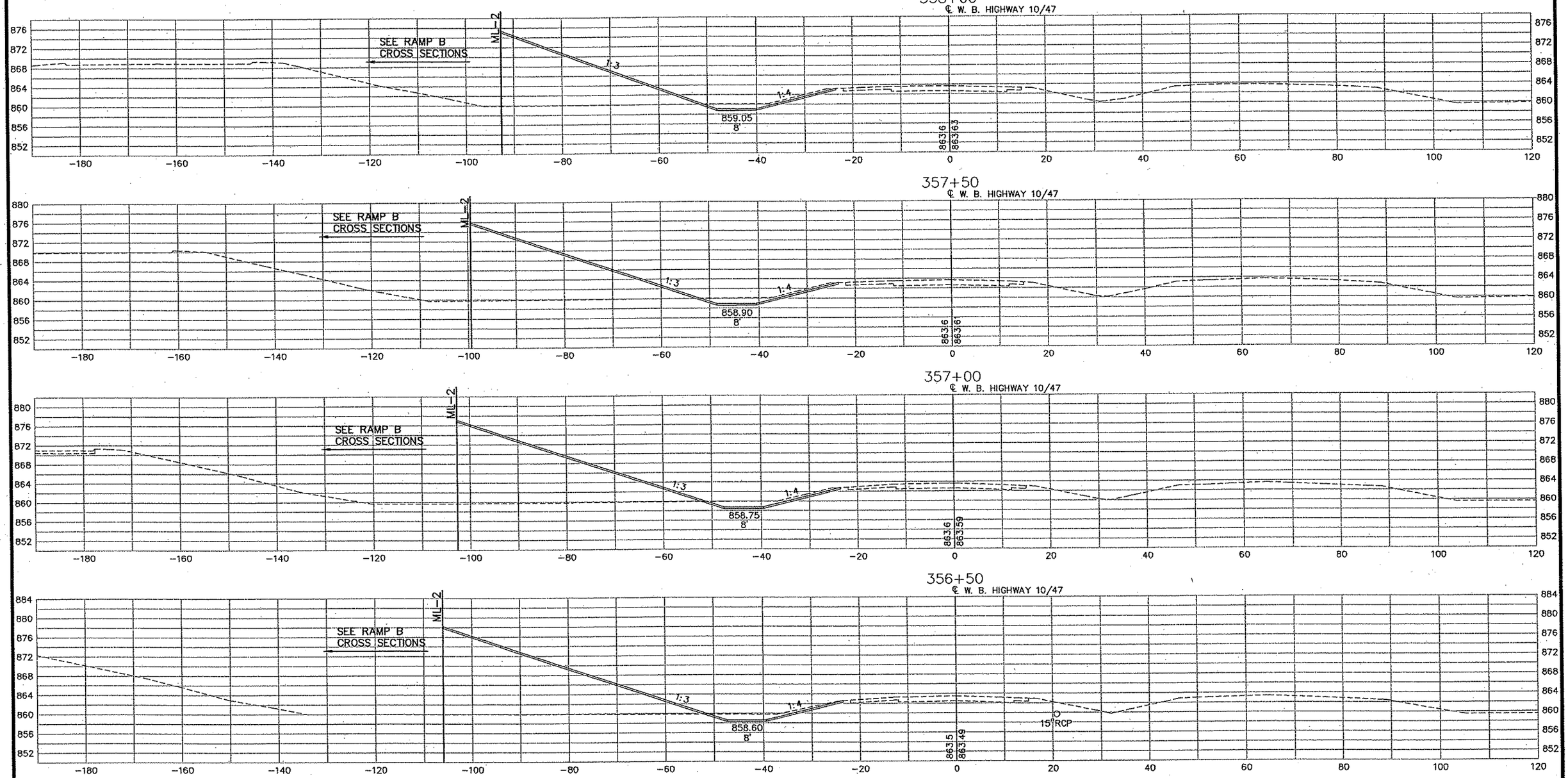
CROSS SECTIONS
STATION 354+00.00 TO STATION 356+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 620 / 681

PLOT DATE: Jan 7 10:36am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-61.dwg

-CNTY
-hwy10
c346dr



PLOT DATE: Jan 7 10:36am DISK FILE NAME: (16.1) R:\33689\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-62.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-62
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

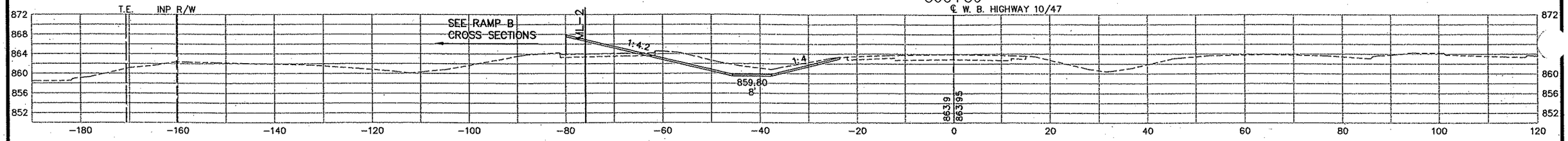
CROSS SECTIONS
STATION 356+50.00 TO STATION 358+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

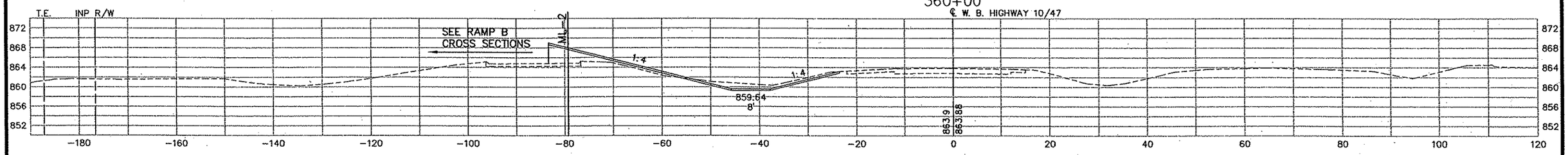
SHEET NO. 621 / 681

-QNTY
-hwy10
:34bdr

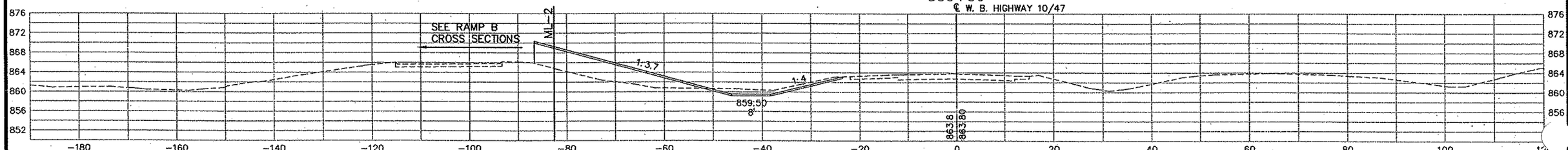
360+50
℄ W. B. HIGHWAY 10/47



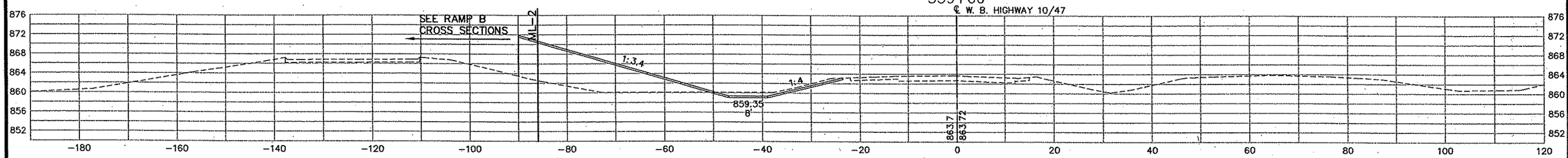
360+00
℄ W. B. HIGHWAY 10/47



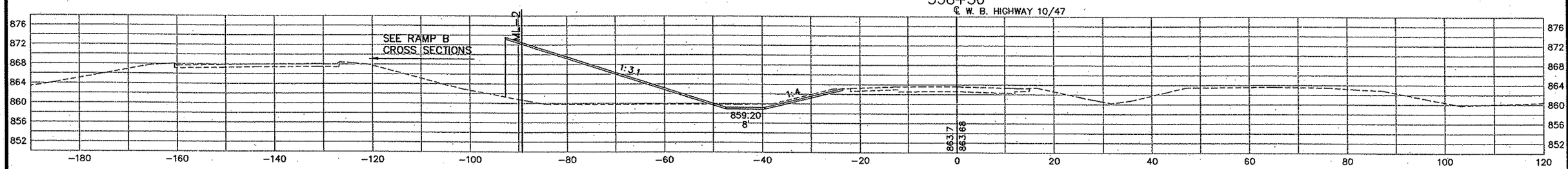
359+50
℄ W. B. HIGHWAY 10/47



359+00
℄ W. B. HIGHWAY 10/47



358+50
℄ W. B. HIGHWAY 10/47



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-63
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

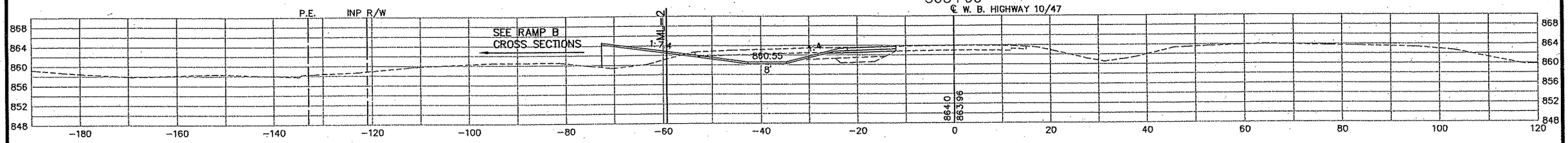
TH 10/HANSON BOULEVARD INTERCHANGE
HIGHWAY 10/47 W.B.
CROSS SECTIONS
STATION 358+50.00 TO STATION 360+50.00

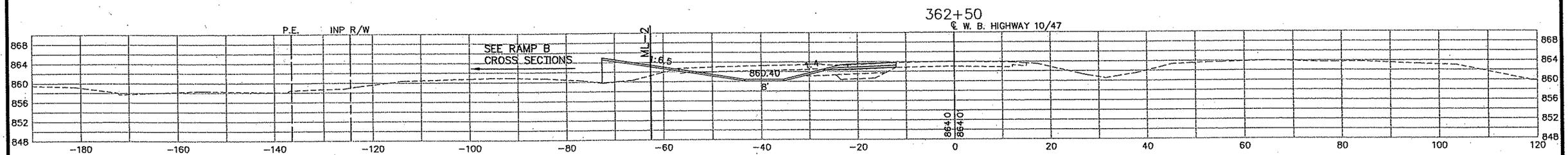
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

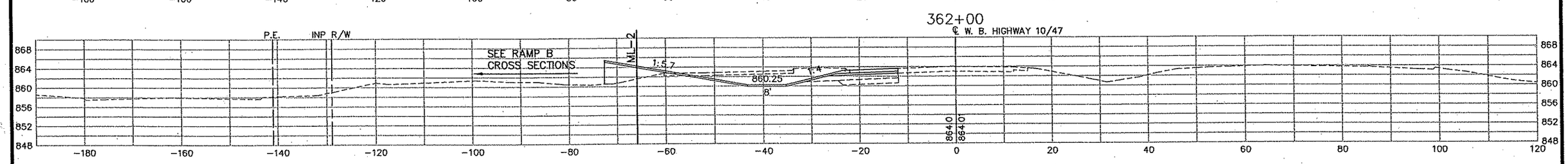
SHEET NO. 622 / 681

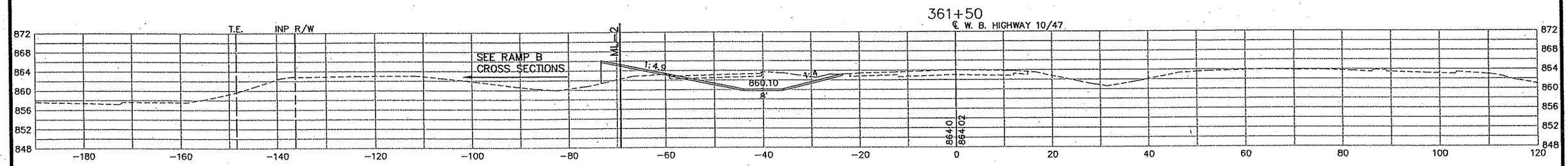
PLOT DATE: Jan 7 10:36am DISK FILE NAME: (16,1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-63.dwg

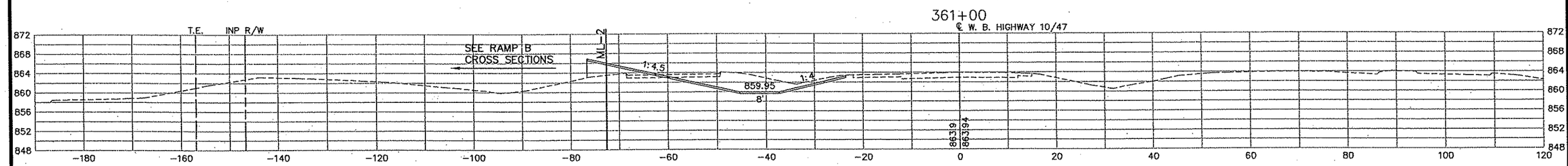
-QNTY
-hwy10
634bdr











REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSHWY-64
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

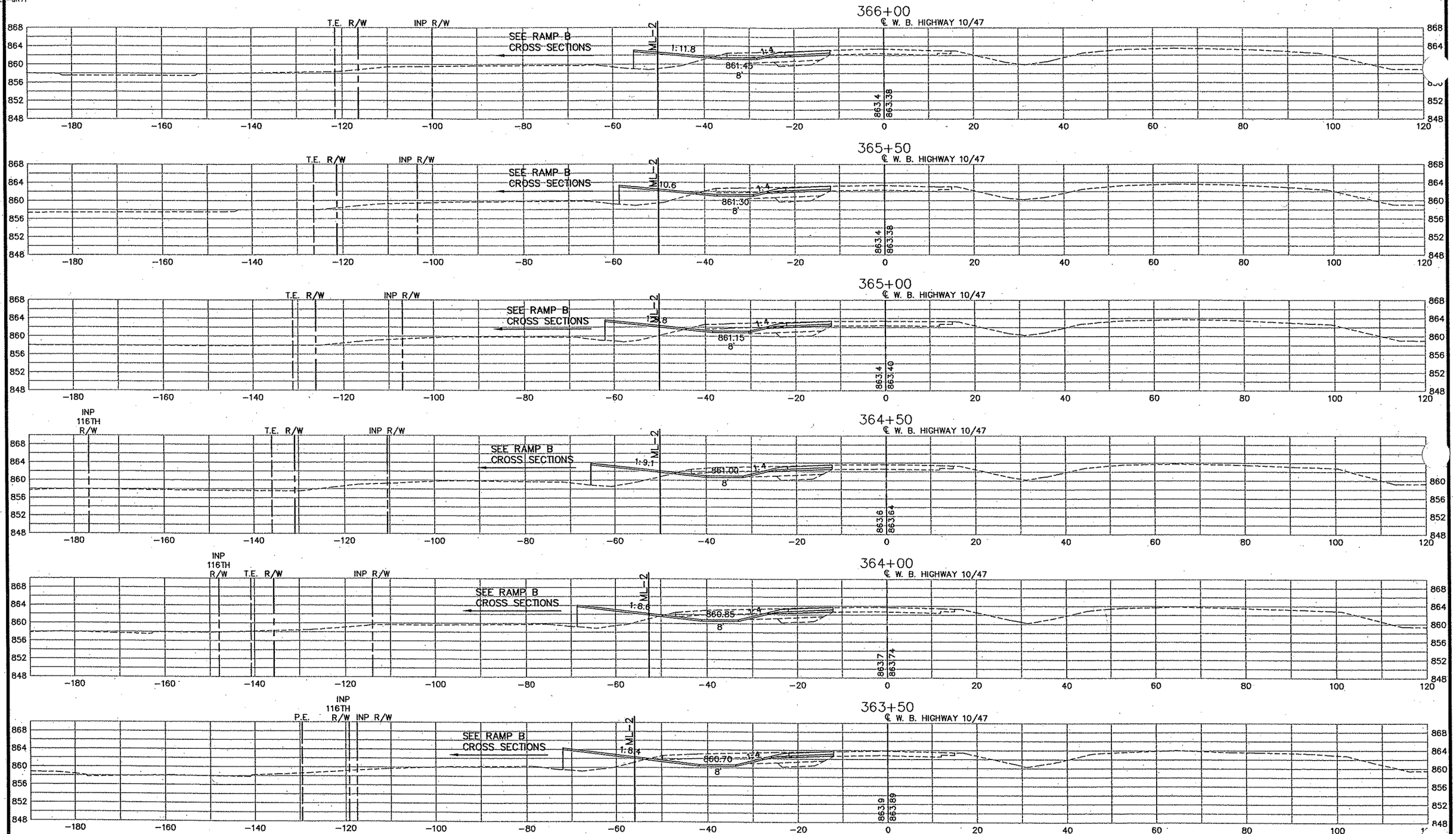
CROSS SECTIONS
STATION 361+00.00 TO STATION 363+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 623 / 681

PLOT DATE: Jan 17 10:36am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-64.dwg

-QNTY
-hwy10
c34bdr



PLOT DATE: Jan 7 10:36am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-65.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-65
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

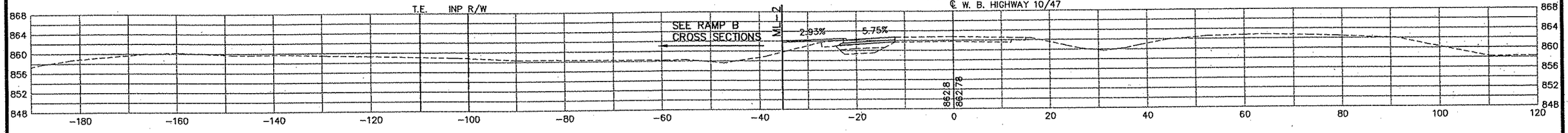
HIGHWAY 10/47 W.B.

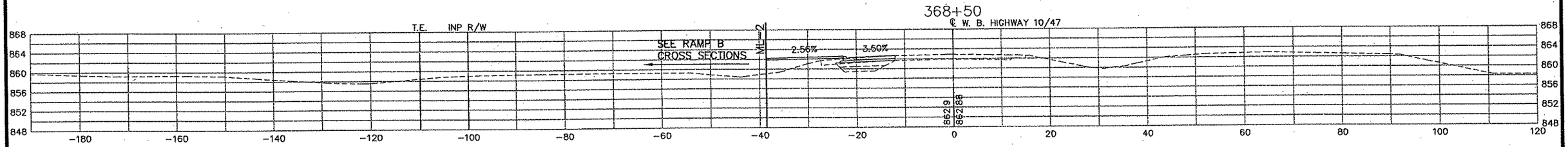
CROSS SECTIONS
STATION 363+50.00 TO STATION 366+00.00

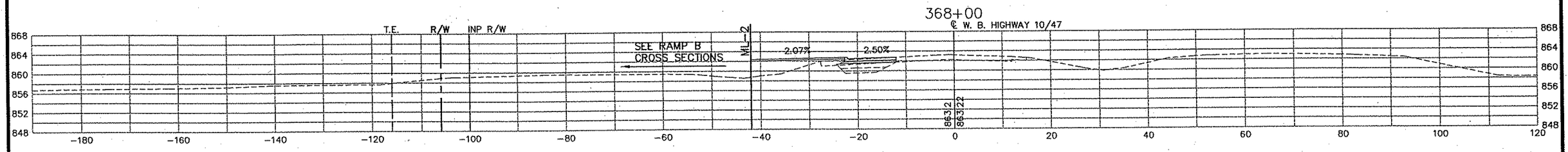
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

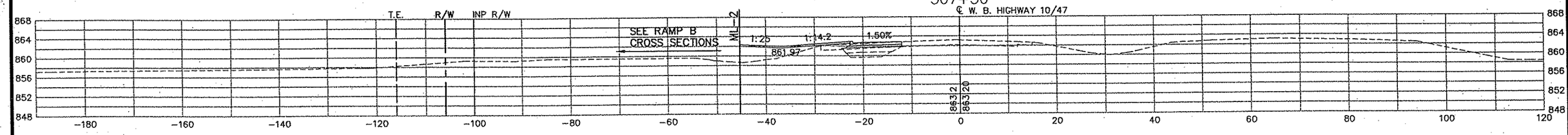
SHEET NO. 624 / 681

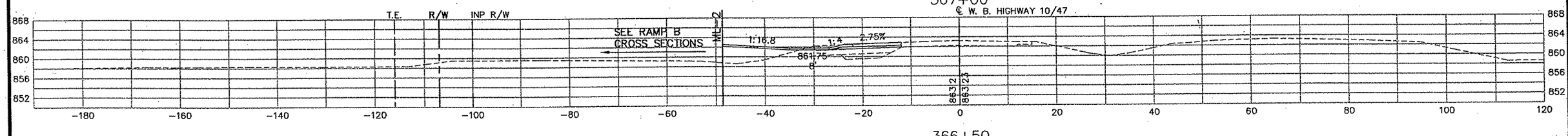
-QNTY
-hwy10
:34bdr

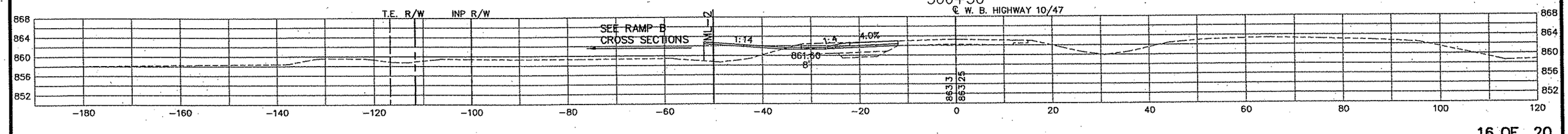












REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-66
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

CROSS SECTIONS
STATION 366+50.00 TO STATION 369+00.00

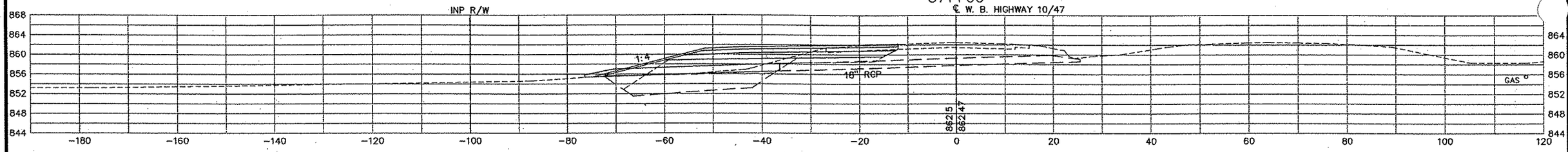
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 625 / 681

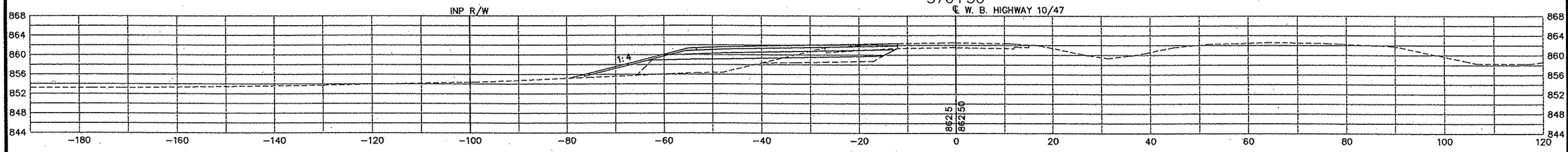
PLOT DATE: Jan 04 10:36am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-066.dwg

-QNTY
-hwy10
c34bdr

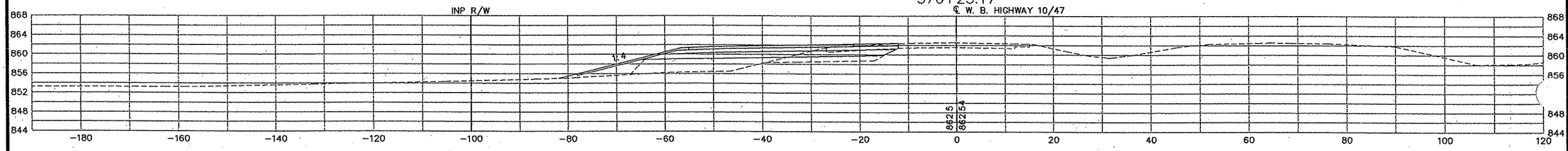
371+00



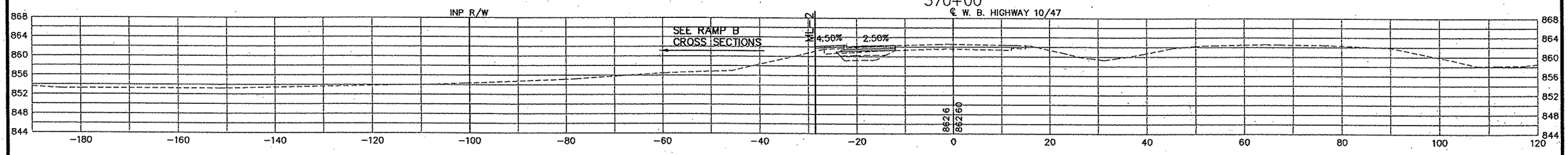
370+50



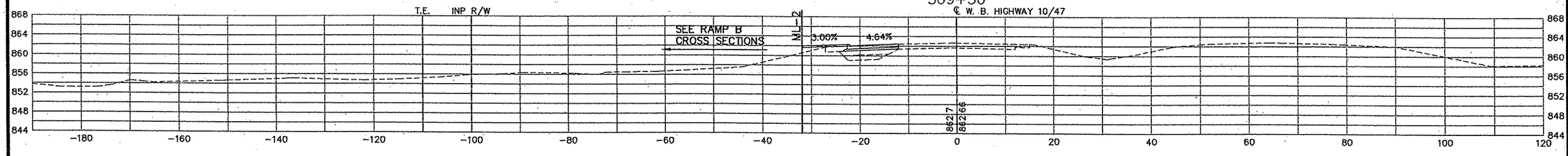
370+25.17



370+00



369+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-67
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

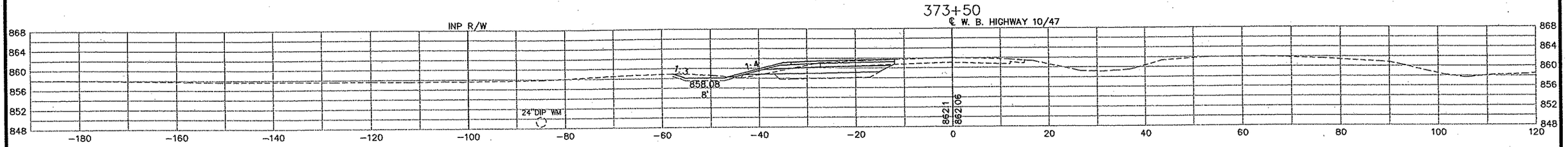
CROSS SECTIONS
STATION 369+50.00 TO STATION 371+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 626 / 681

PLOT DATE: Jan 08 / 10:36am DISK FILE NAME: (16:1) R:\33689\33889042\PLAN-SHT\CROSS-SECTIONS\042-0-67.dwg

-QNTY
-hwy10
:34bdr



PLOT DATE: Jan 0[illegible] 10:36am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-[illegible]0-68.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-68
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

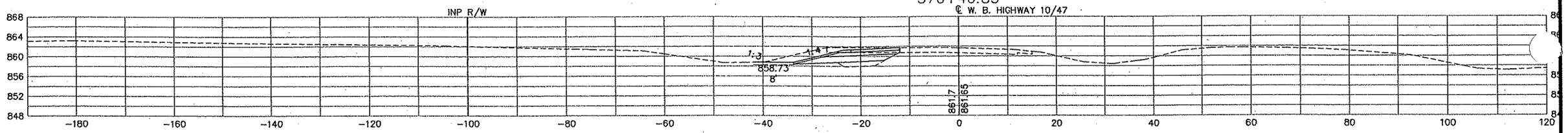
HIGHWAY 10/47 W.B.

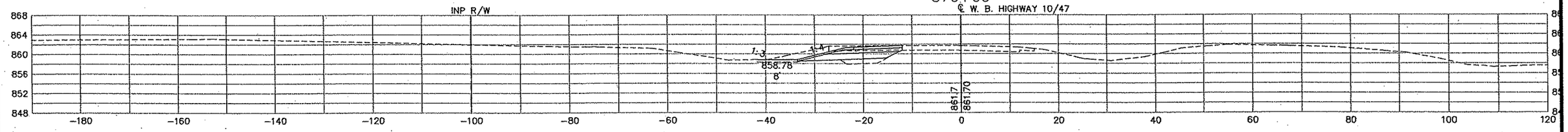
CROSS SECTIONS
STATION 371+50.00 TO STATION 373+50.00

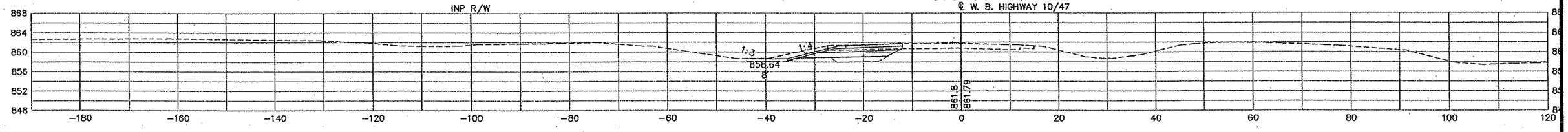
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

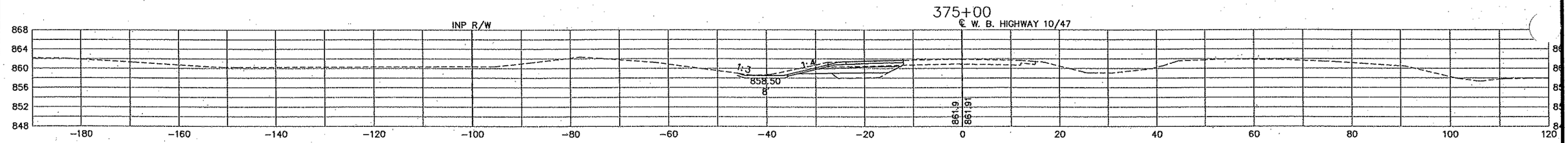
SHEET NO. 627 / 681

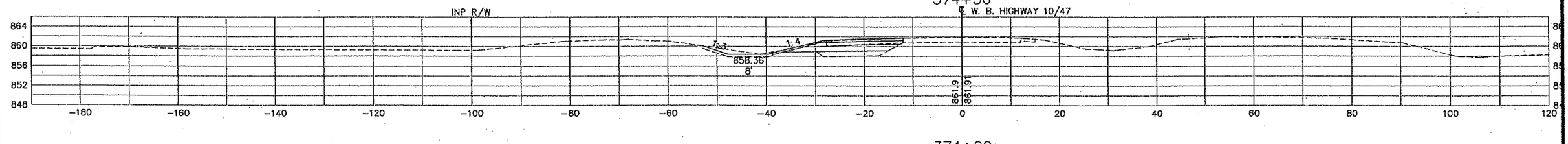
-QNTY
-hwy10
:34bdr

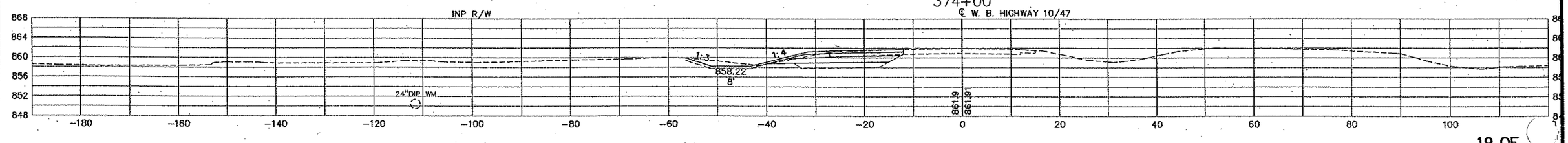












REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-69
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

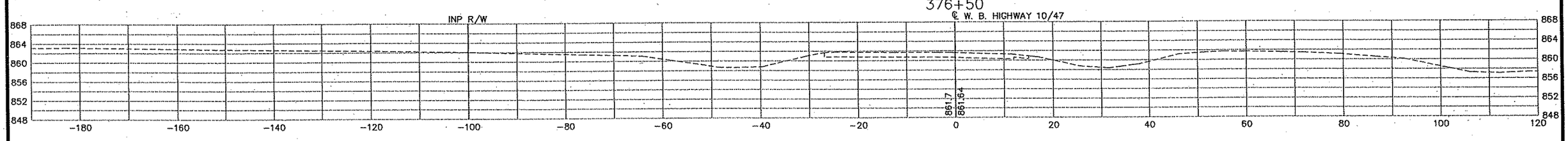
CROSS SECTIONS
STATION 374+00.00 TO STATION 376+46.83

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 628 / 681

PLOT DATE: Jan 0.) 10:36am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-0-69.dwg

-QNTY
-hwy10
i34bdr



PLOT DATE: Jan 07 10:36am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-070.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-70
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 W.B.

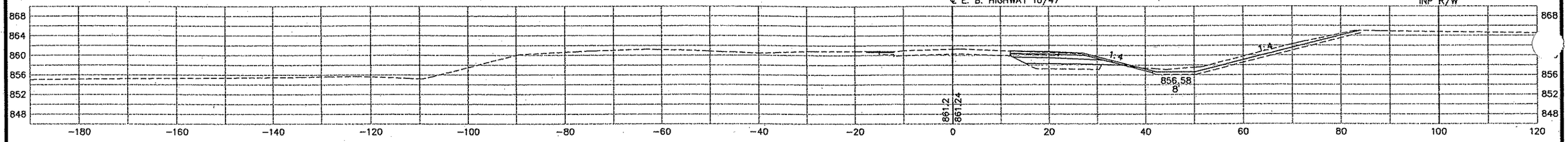
CROSS SECTIONS
STATION 376+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

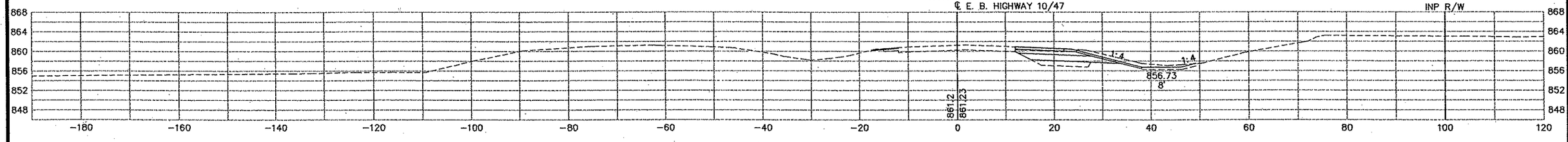
SHEET NO. 629 / 681

-ONTY
-hwy10
c34bdr

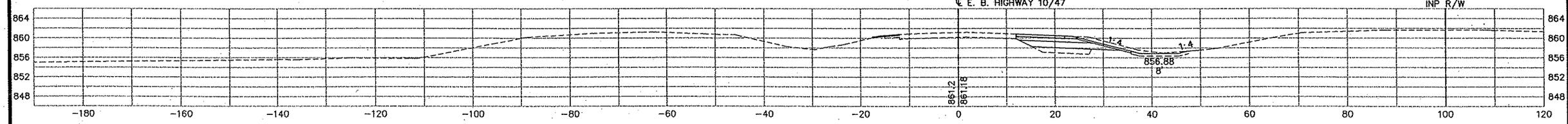
334+00



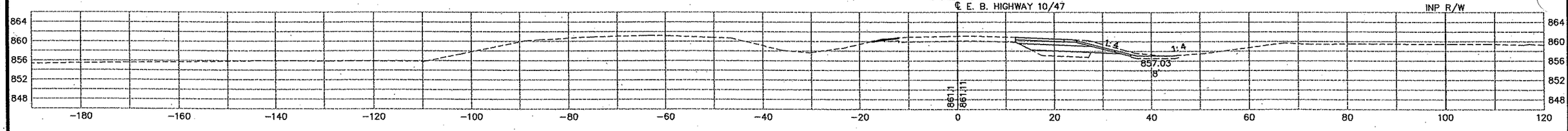
333+50



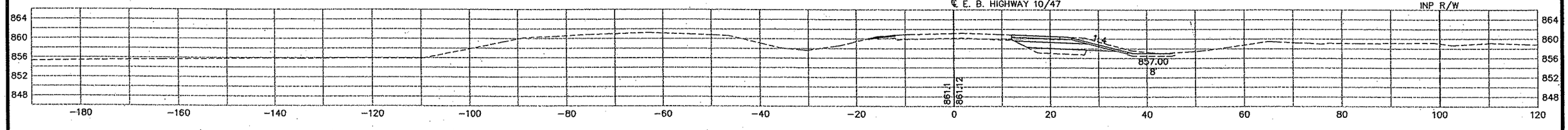
333+00



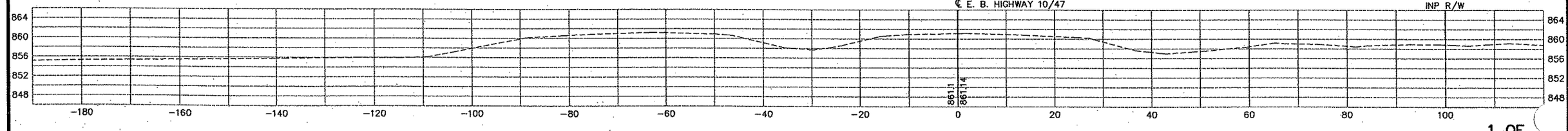
332+50



332+29.07



332+00



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889--042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY--01
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 E.B.

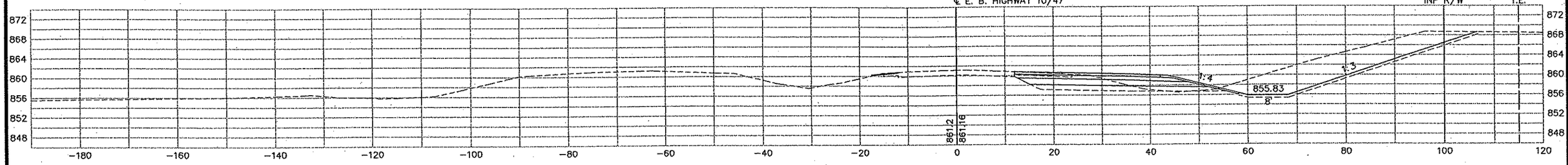
CROSS SECTIONS
STATION 332+00.00 TO STATION 334+00.00

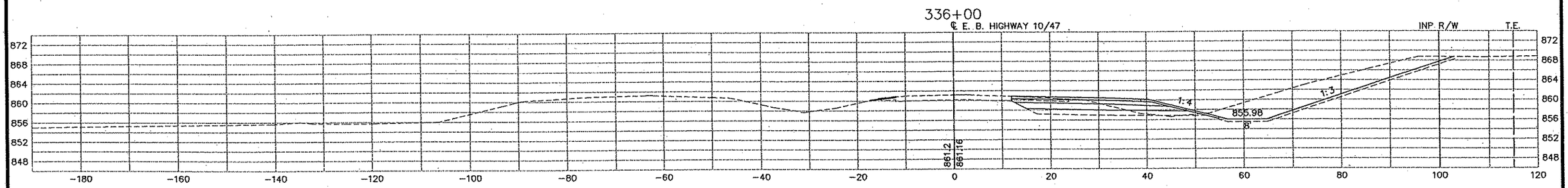
CITY PROJECT	01--31	S.P.	0215--59
S.P.	02--678--17	S.P.	02--611--29
		S.P.	114--020--28
		S.P.	114--010--14

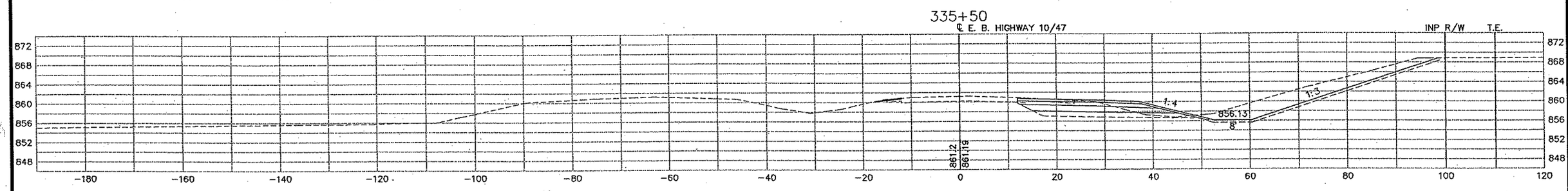
SHEET NO. 630 / 681

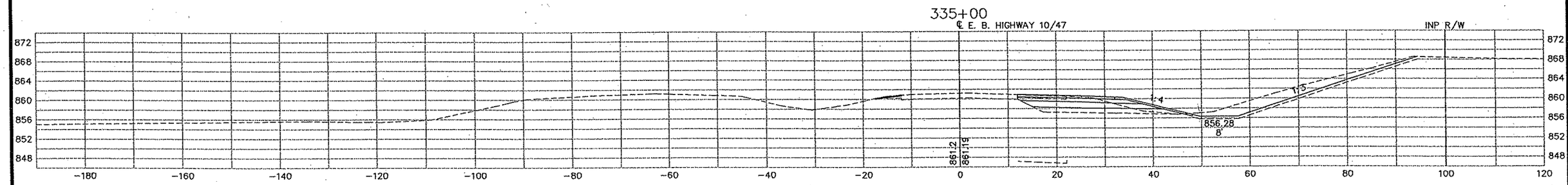
PLOT DATE: Jan 0 10:33am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-01.dwg

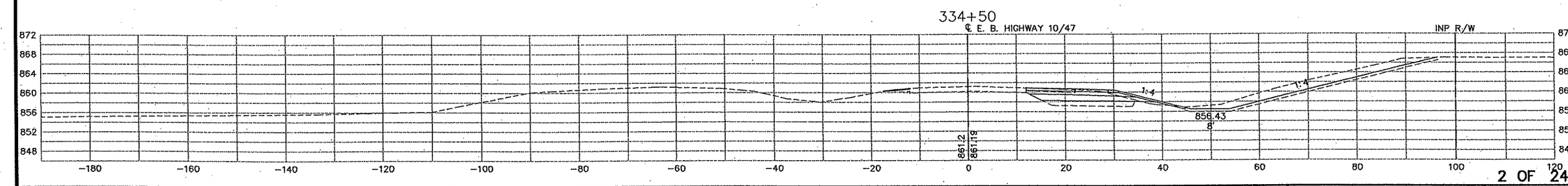
-QNTY
-hwy10
c34bdr











REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSHWY-02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 334+50.00 TO STATION 336+50.00

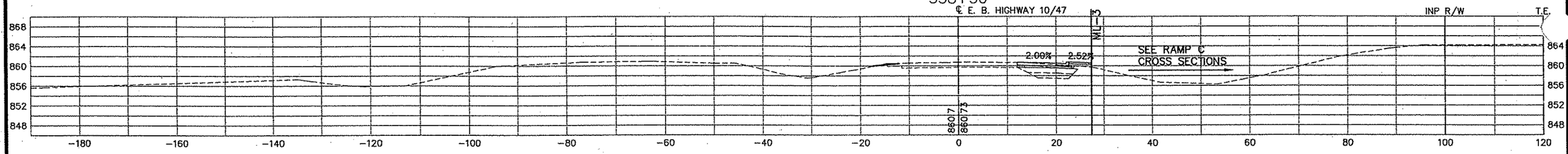
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 631 / 681

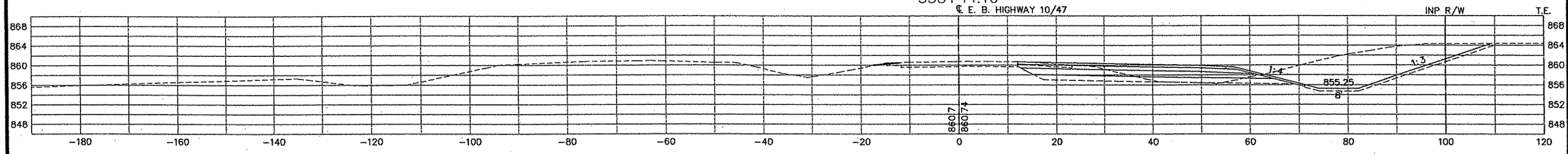
PLOT DATE: Jan 07 10:33am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-CSHWY-02.dwg

-QNTY
-hwy10
:34bdr

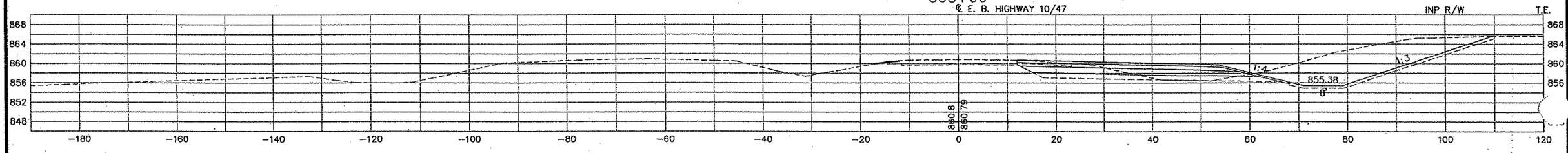
338+50



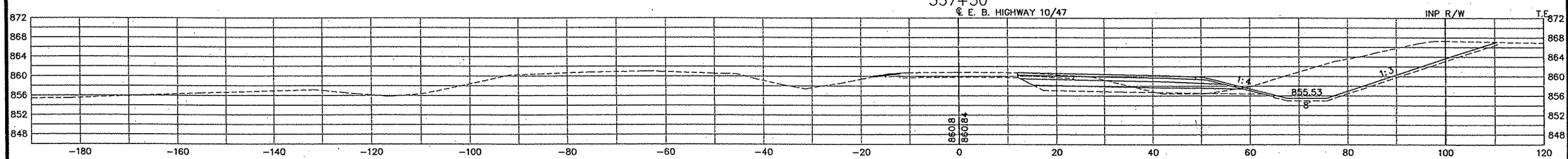
338+44.10



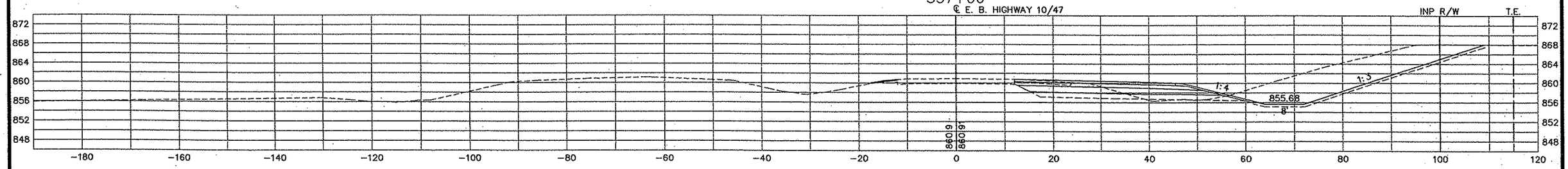
338+00



337+50



337+00



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-03
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

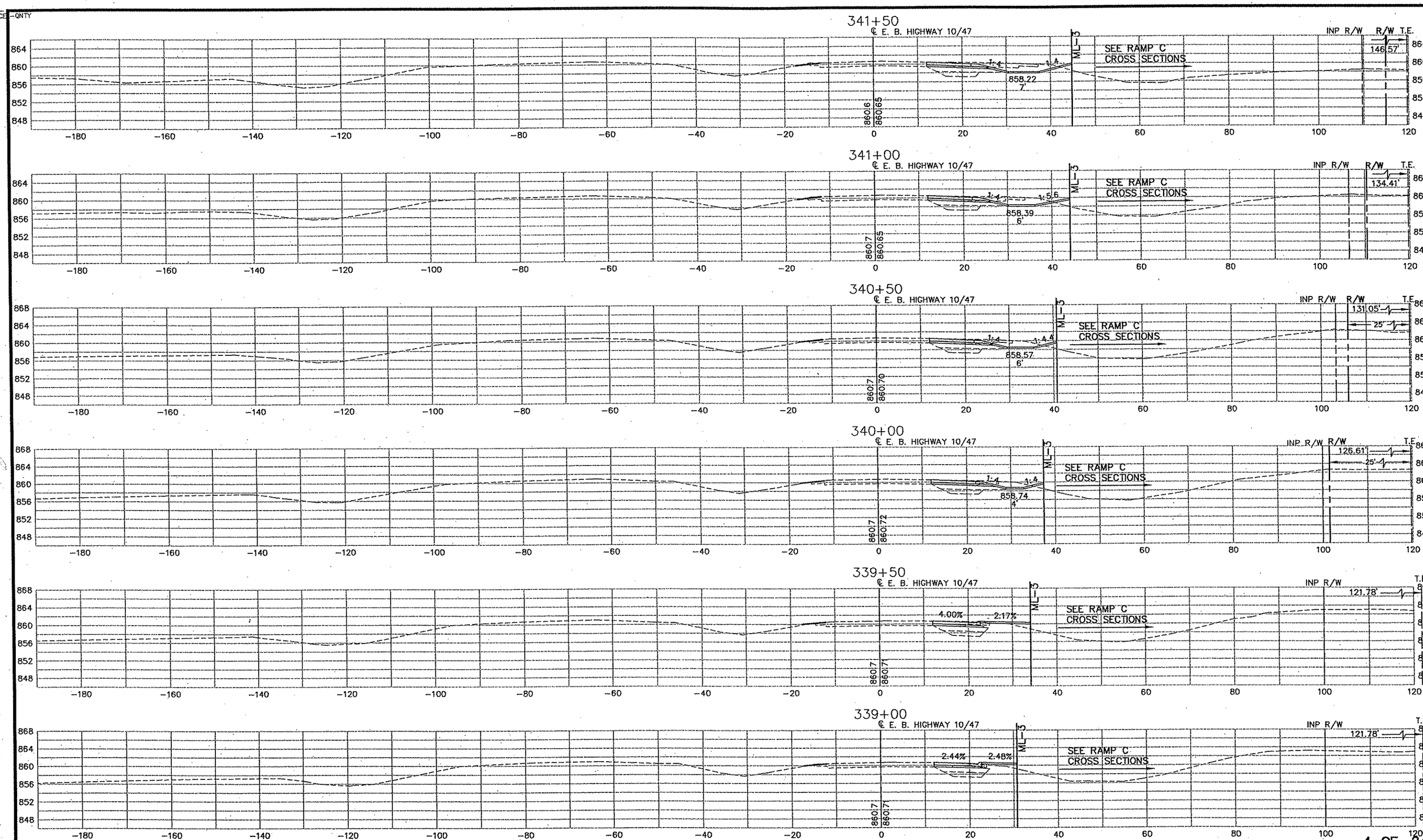
HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 337+00.00 TO STATION 338+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 632 / 681

PLOT DATE: Jan 0 / 10:33am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-03.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSHWY-04
DATE: JANUARY 8, 2007

URS
Threshar Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

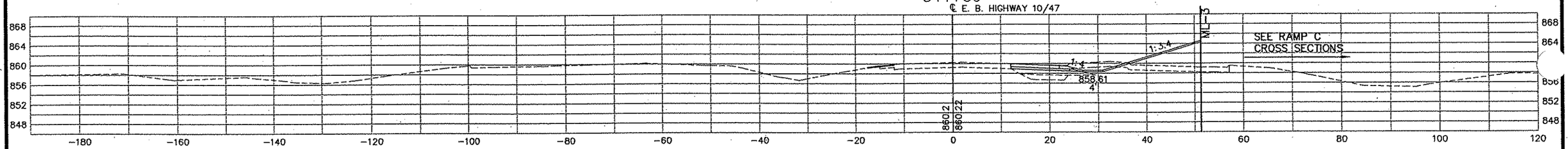
TH 10/HANSON BOULEVARD INTERCHANGE
HIGHWAY 10/47 E.B.
CROSS SECTIONS
STATION 339+00.00 TO STATION 341+50.00

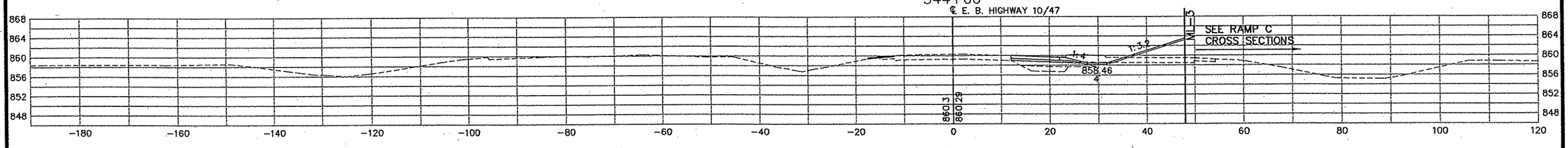
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

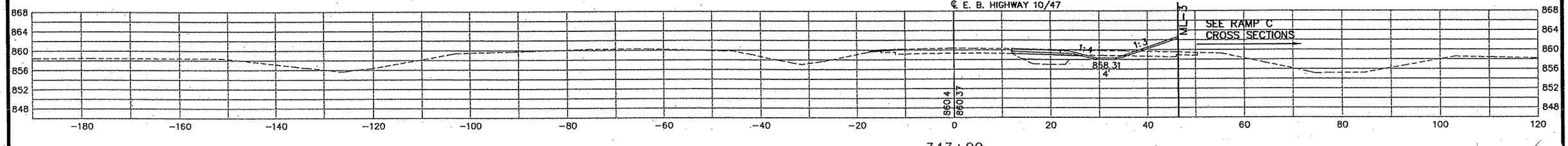
SHEET NO. 633 / 681

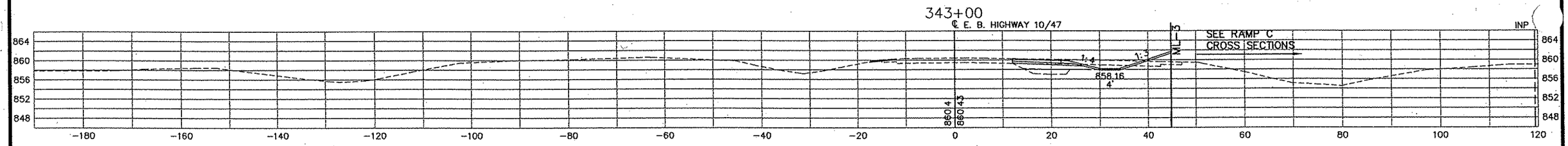
PLOT DATE: Jan 0 7 10:33am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-04.dwg

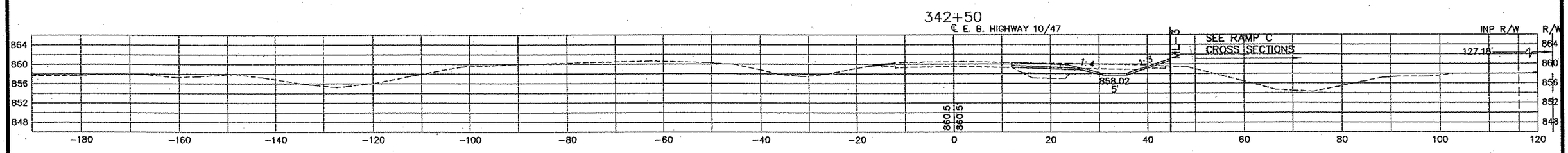
-QNTY
+hwy10
34bdr

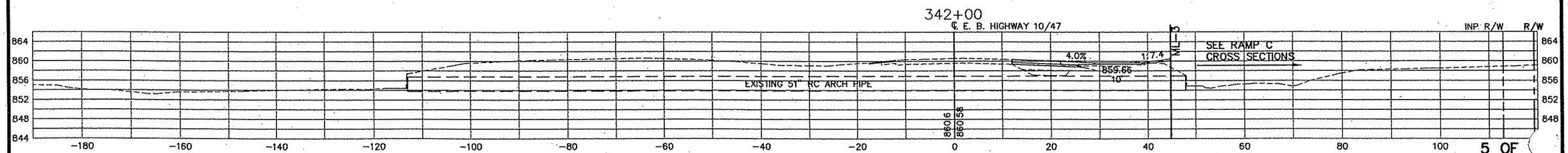












REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

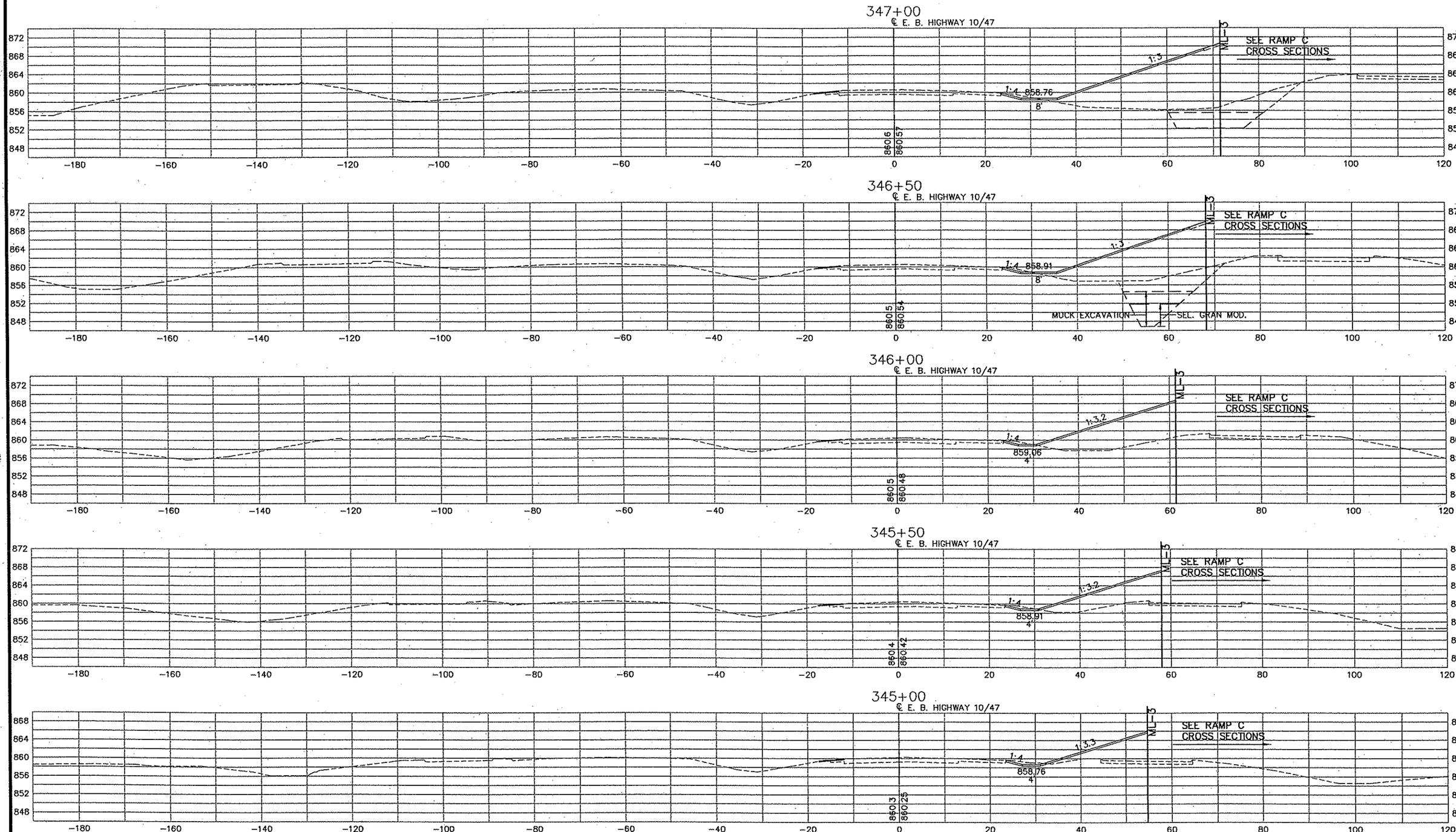
TH 10/HANSON BOULEVARD INTERCHANGE
HIGHWAY 10/47 E.B.
CROSS SECTIONS
STATION 342+00.00 TO STATION 344+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 634 / 681

5 OF

PLOT DATE: Jan 7 10:33am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-05.dwg



6 OF 24

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSHWY-06
DATE: JANUARY 8, 2007

URS

Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 345+00.00 TO STATION 347+00.00

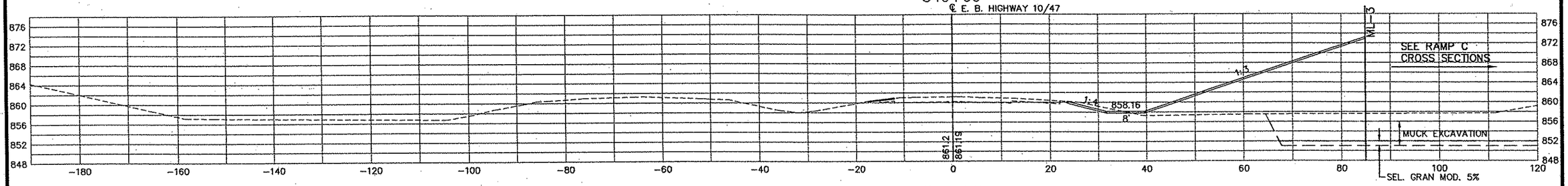
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 635 / 681

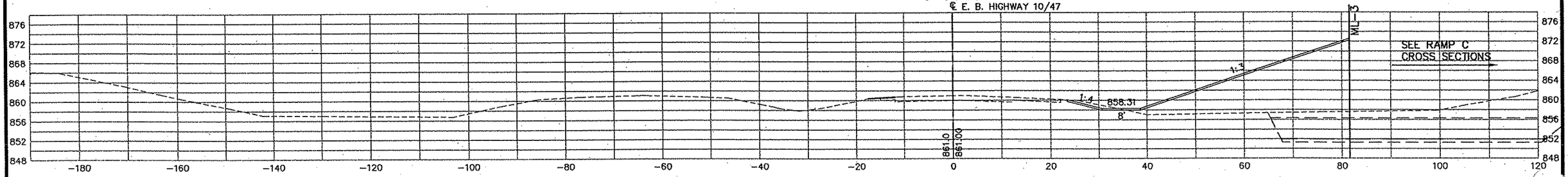
PLOT DATE: Jan 0 7 10:33am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-06.dwg

-QNTY
-hwy10
-34bdr

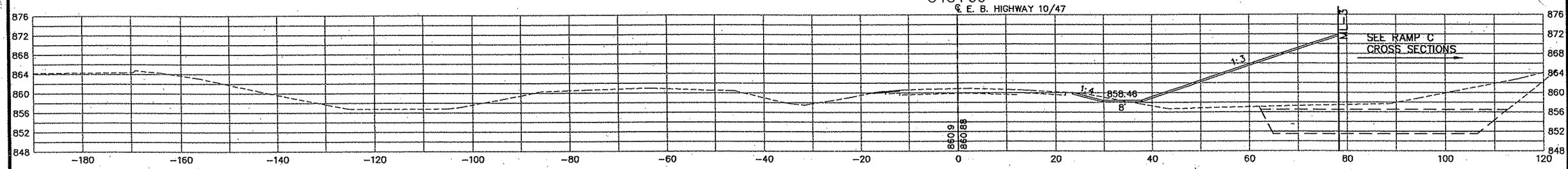
349+00
℄ E. B. HIGHWAY 10/47



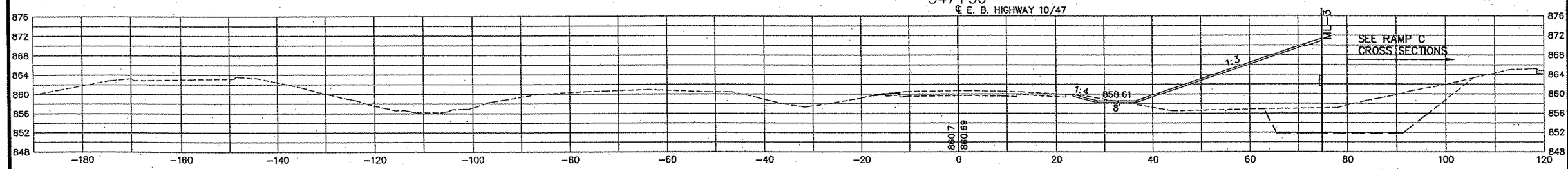
348+50
℄ E. B. HIGHWAY 10/47



348+00
℄ E. B. HIGHWAY 10/47



347+50
℄ E. B. HIGHWAY 10/47



PLOT DATE: Jan 0. 10:33am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-0-07.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-07
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

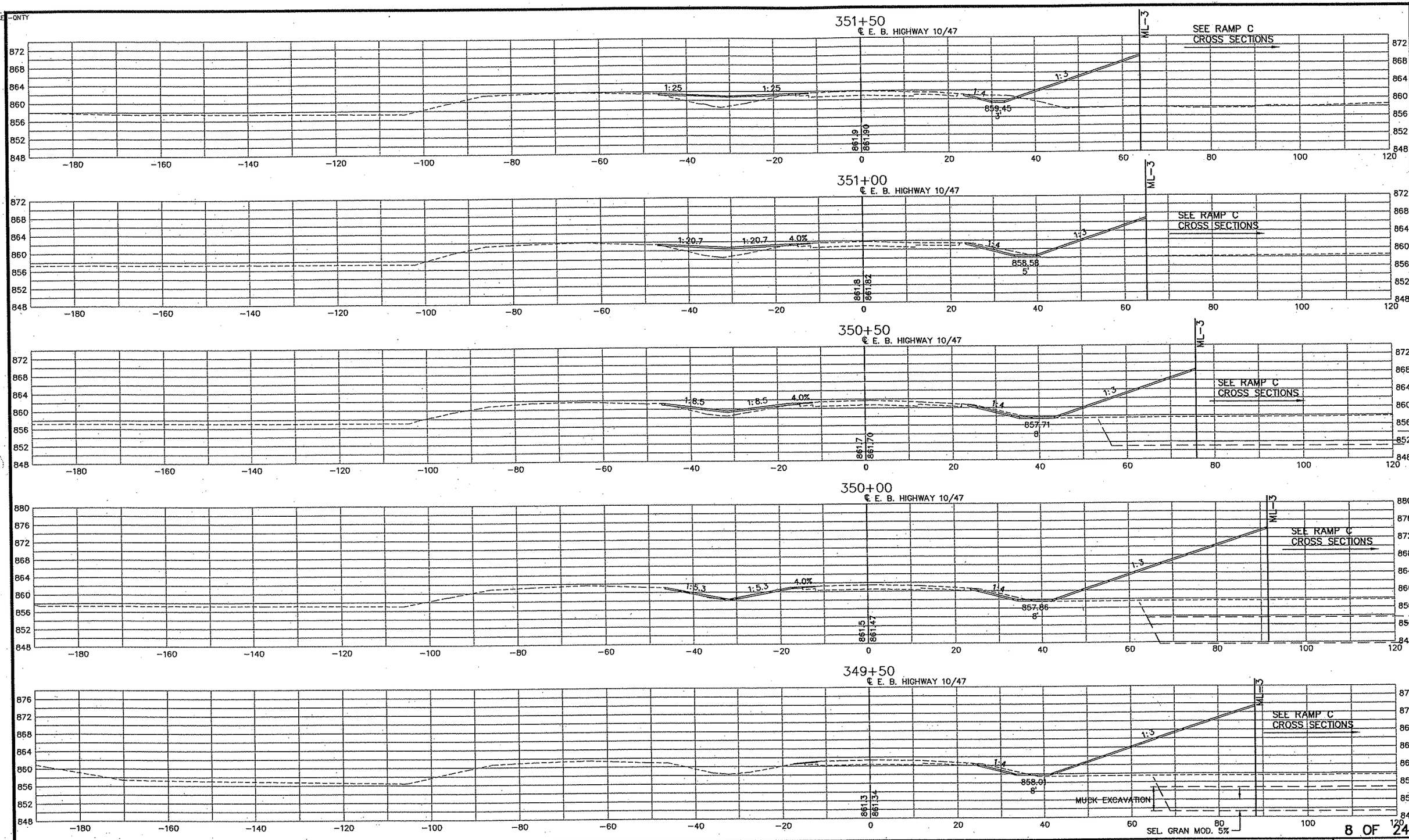
TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 347+50.00 TO STATION 349+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 636 / 681



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-08
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 349+50.00 TO STATION 351+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

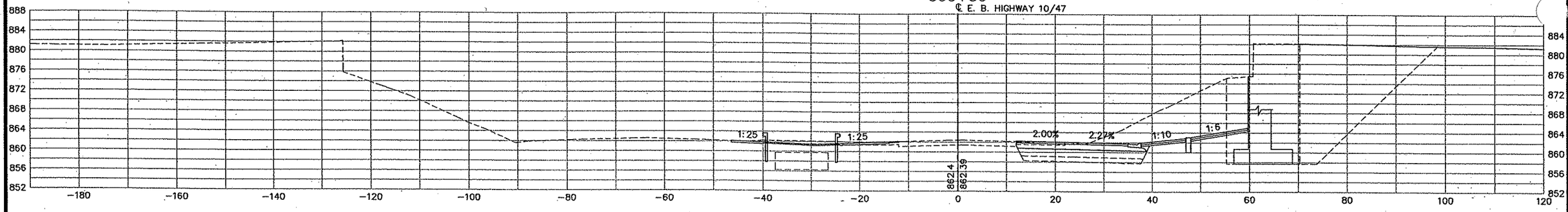
SHEET NO. 637 / 681

PLOT DATE: Jan 07 10:33am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-08.dwg

2-RAMPC-DECE--QNTY
2-RAMPC-DECE--QNTY
-hwy10
34bdr

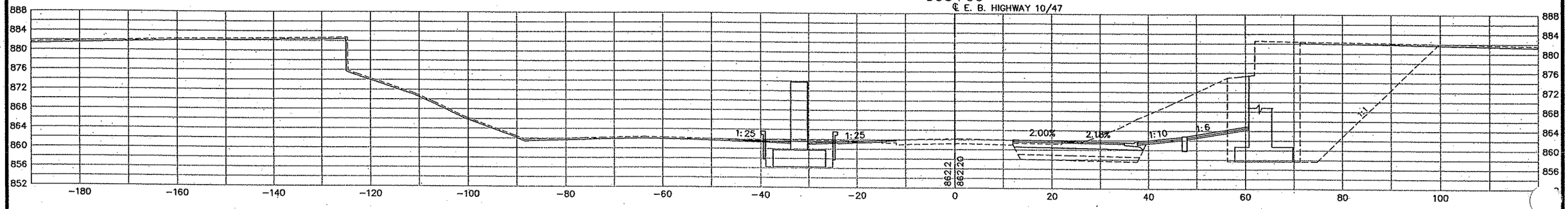
353+50

℄ E. B. HIGHWAY 10/47



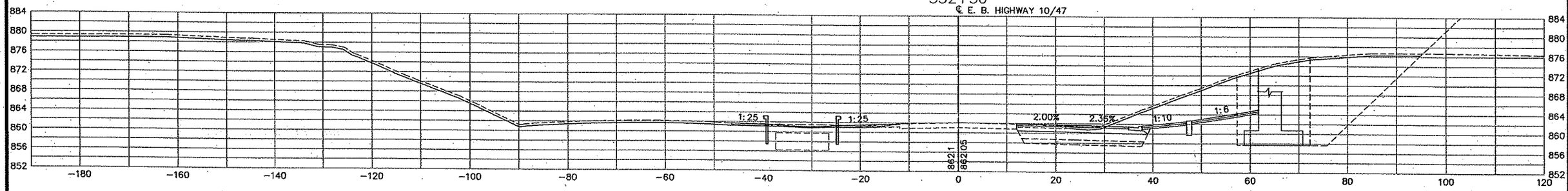
353+00

℄ E. B. HIGHWAY 10/47



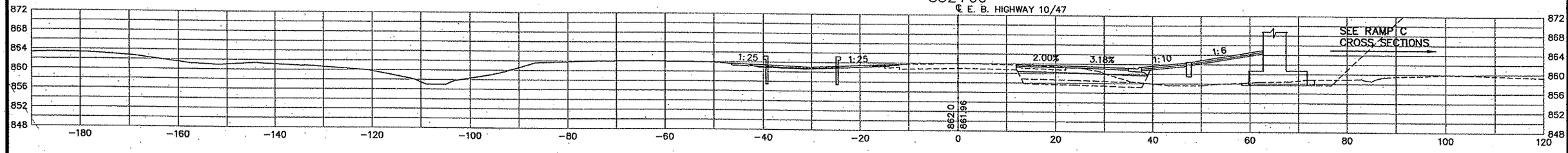
352+50

℄ E. B. HIGHWAY 10/47



352+00

℄ E. B. HIGHWAY 10/47



PLOT DATE: Jan 6 7 10:33am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-09.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-09
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

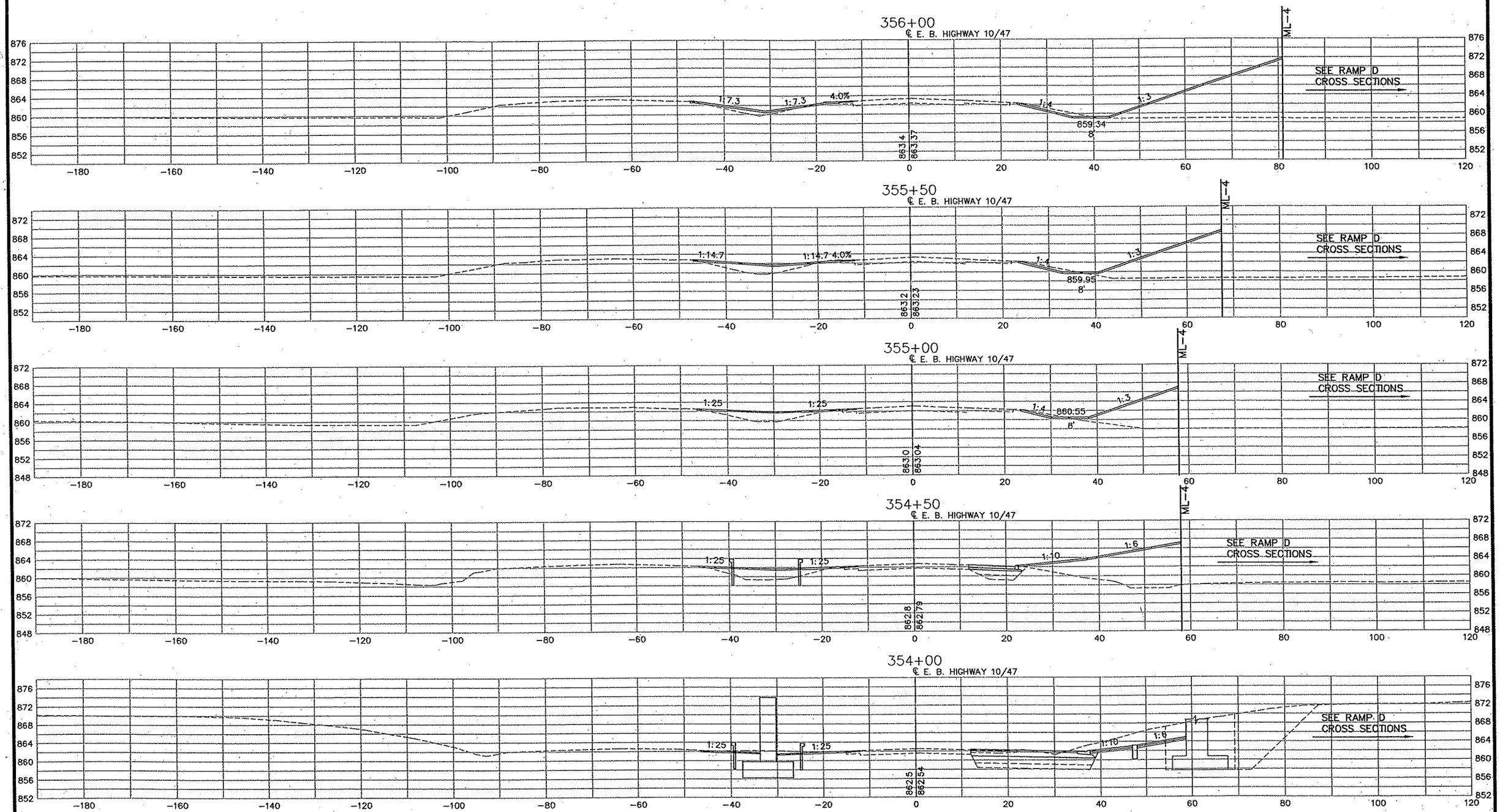
HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 352+00.00 TO STATION 353+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 638 / 681

-QNTY
-hwy10
i34bdr



PLOT DATE: Jan 07 10:34am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-10.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY10
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

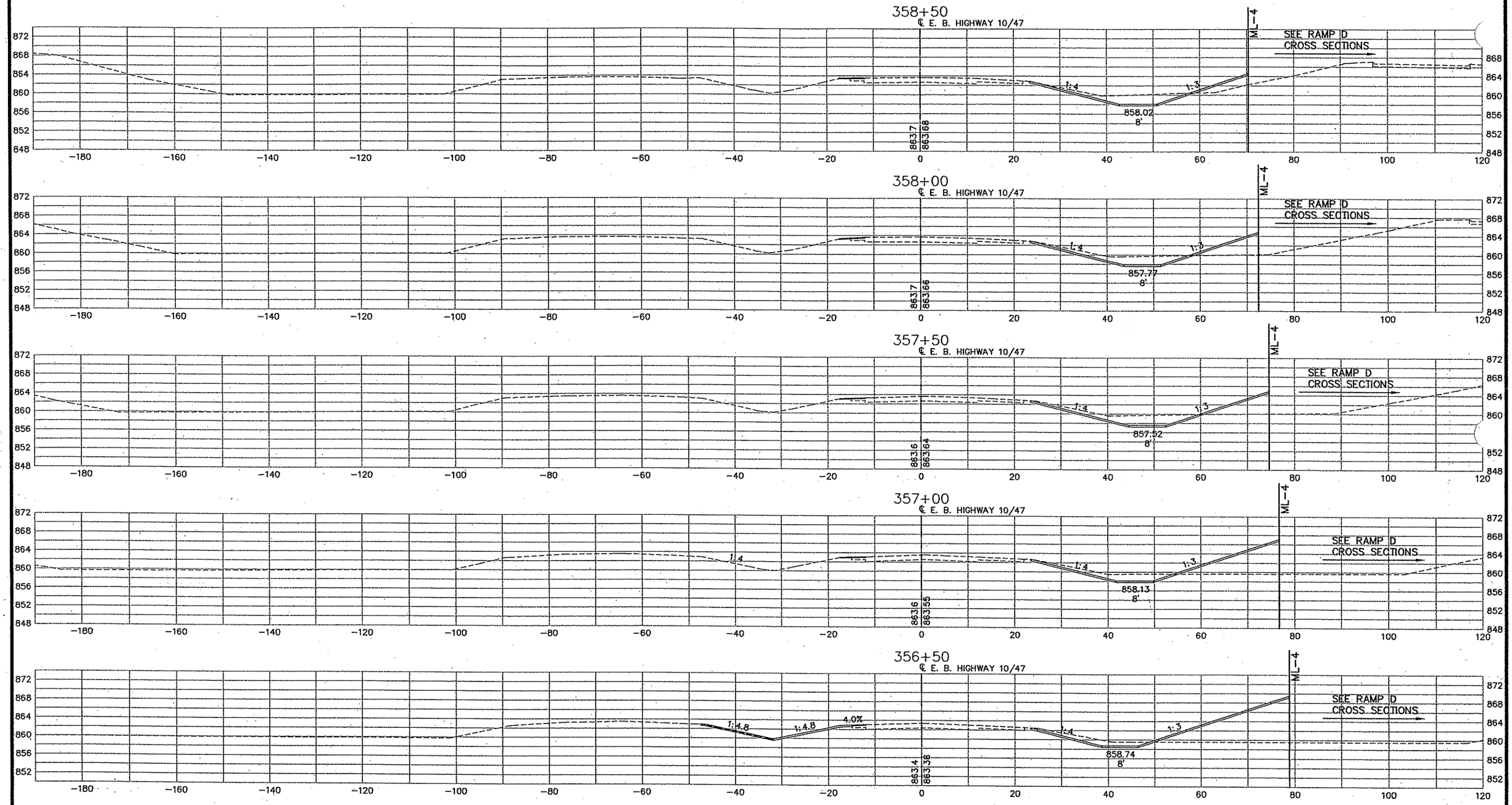
HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 354+00.00 TO STATION 356+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 639 / 681

-QNTY
-hwy10
c345dr



PLOT DATE: Jan 07 10:34am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-11.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-11
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

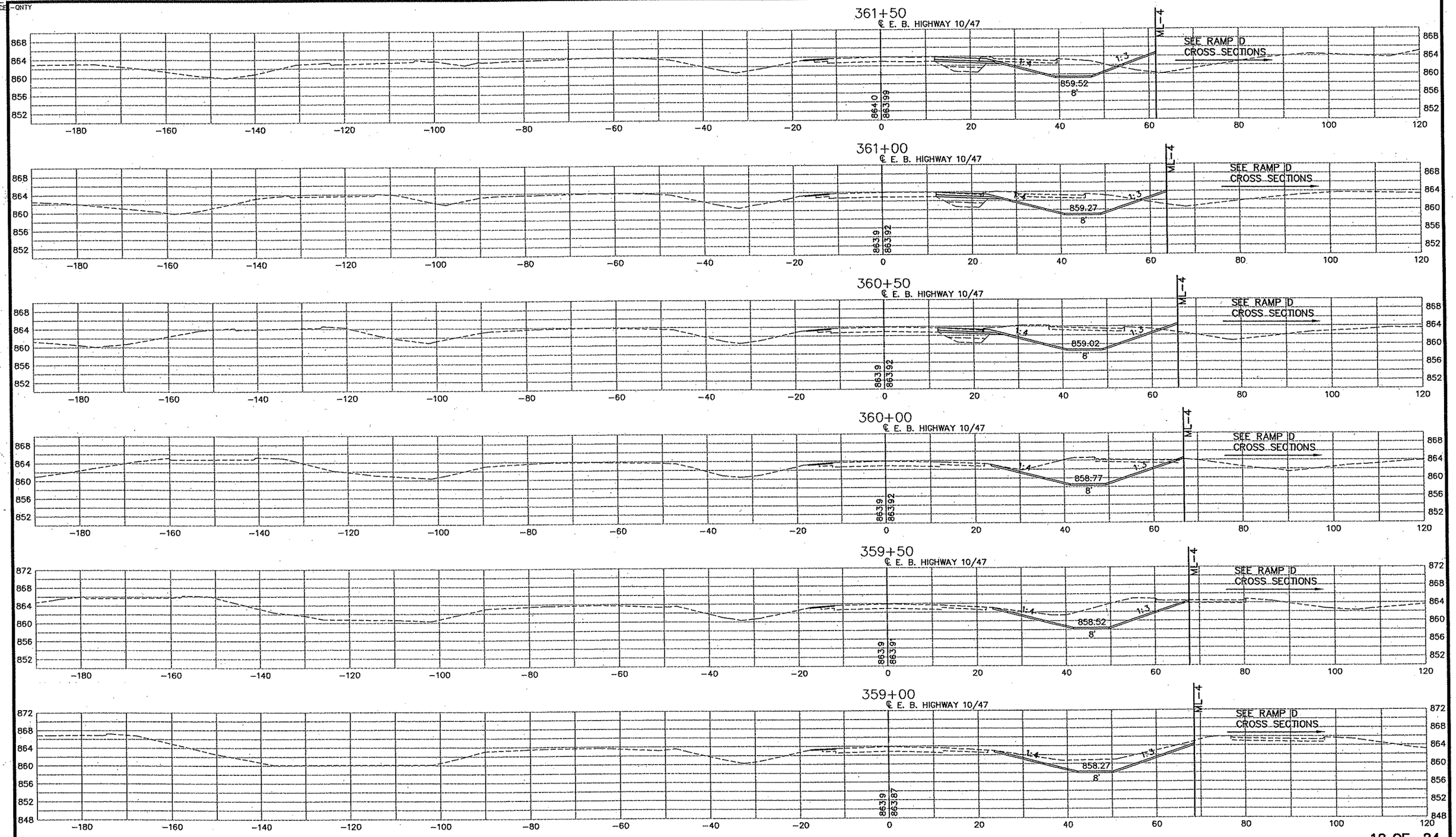
HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 356+50.00 TO STATION 358+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 640 / 681

-QNTY
-hwy10
34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-12
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
HIGHWAY 10/47 E.B.

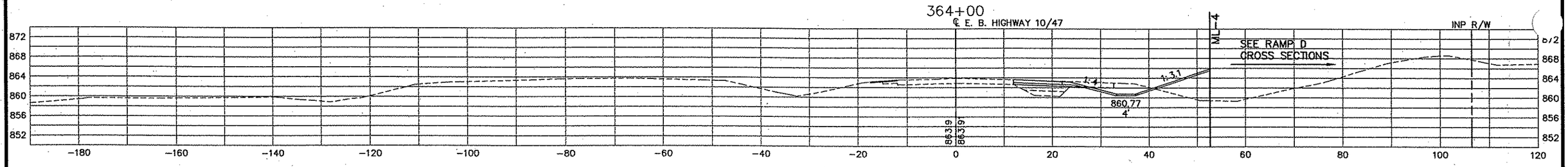
CROSS SECTIONS
STATION 359+00.00 TO STATION 361+50.00

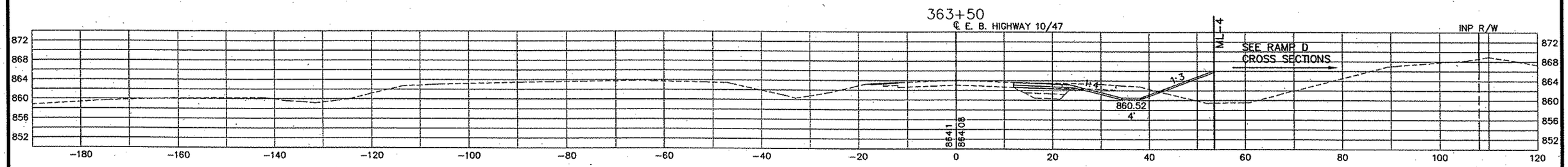
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

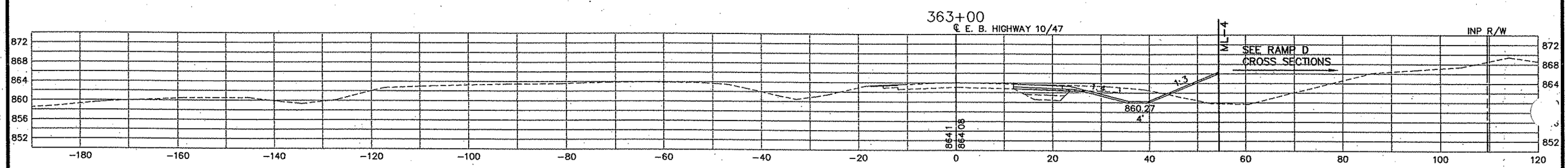
SHEET NO. 641 / 681

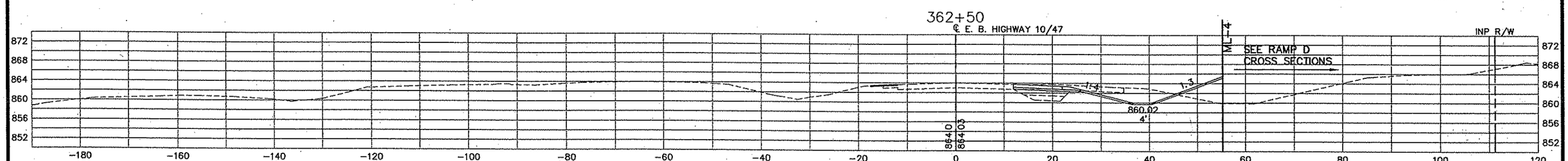
PLOT DATE: Jan 0 7 10:34am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-12.dwg

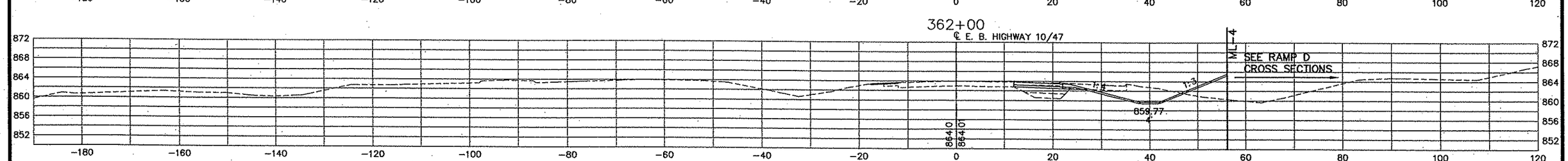
-QNTY
-hwy10
:34bdr











PLOT DATE: Jan 07 10:34am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-13.dwg

13 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-13
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

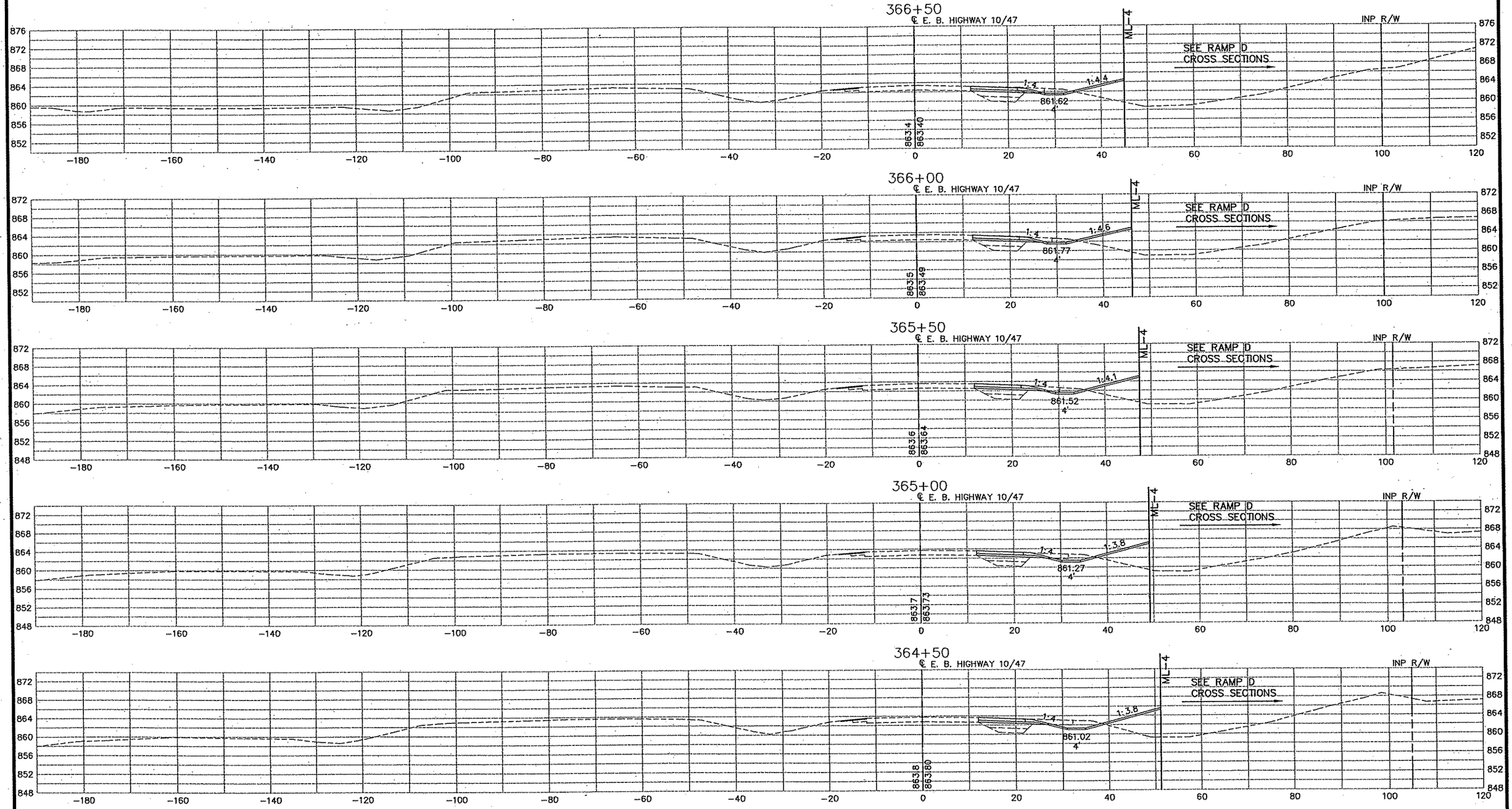
HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 362+00.00 TO STATION 364+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 642 / 681

-QNTY
-hwy10
c34bdr



PLOT DATE: Jan 07 10:34am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-14.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-14
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

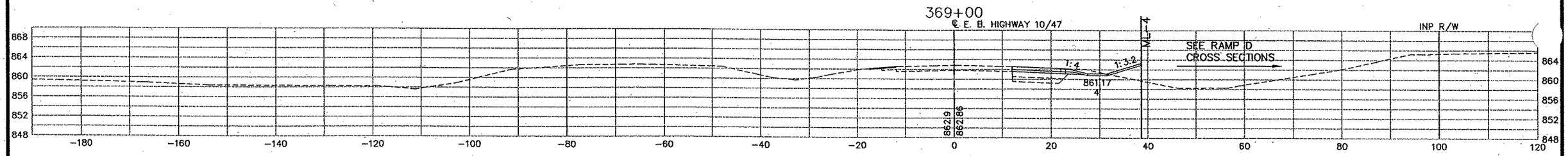
HIGHWAY 10/47 E.B.

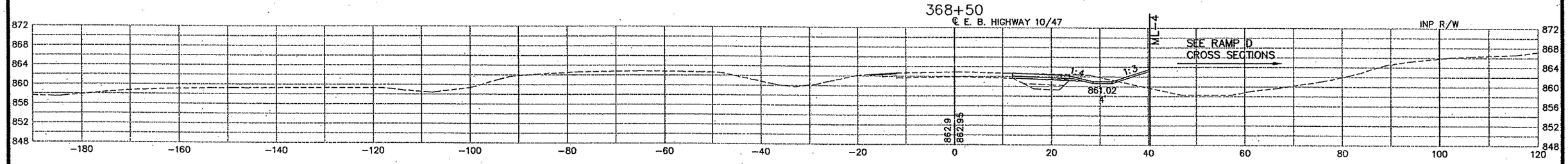
CROSS SECTIONS
STATION 364+50.00 TO STATION 366+50.00

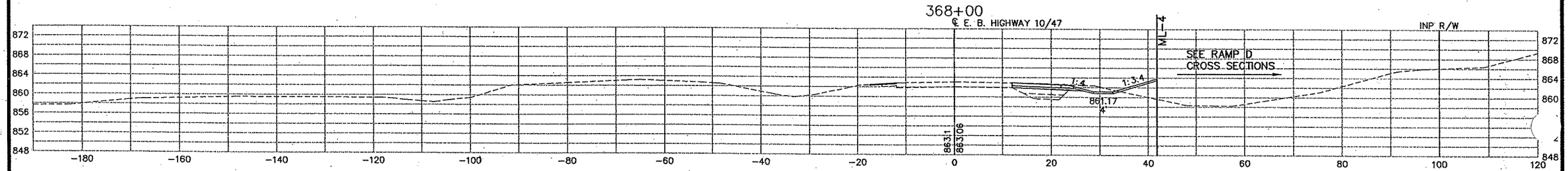
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

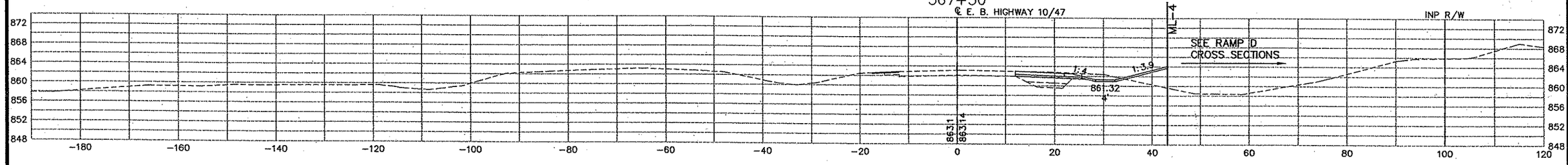
SHEET NO. 643 / 681

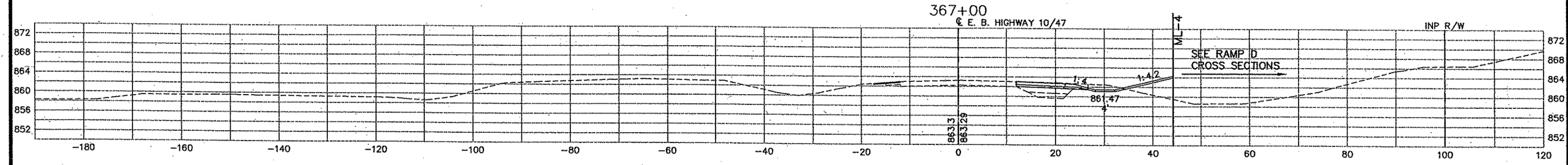
-QNTY
-hwy10
c34bdr











PLOT DATE: Jan 7 10:34am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-15.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-15
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

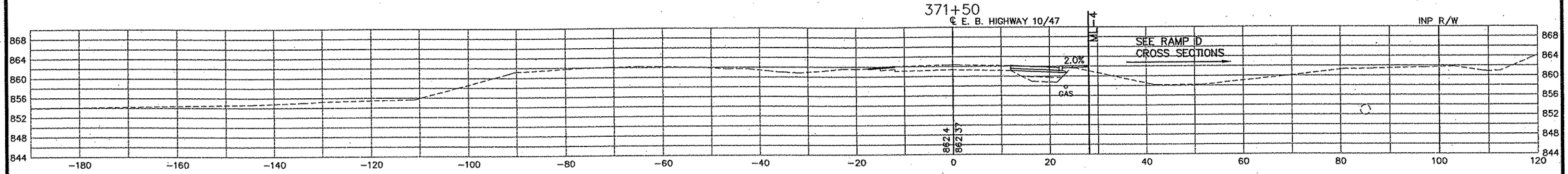
HIGHWAY 10/47 E.B.

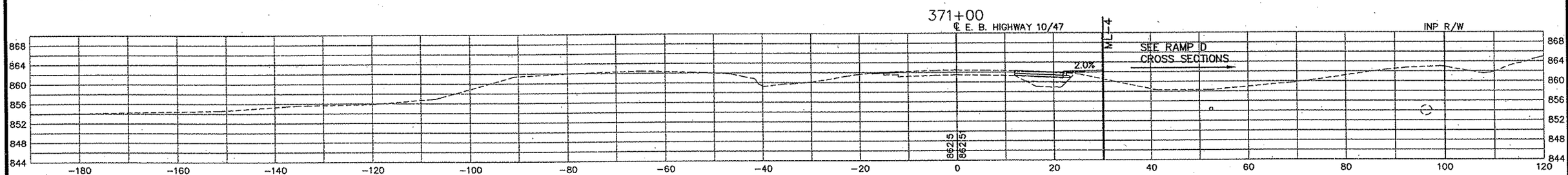
CROSS SECTIONS
STATION 367+00.00 TO STATION 369+00.00

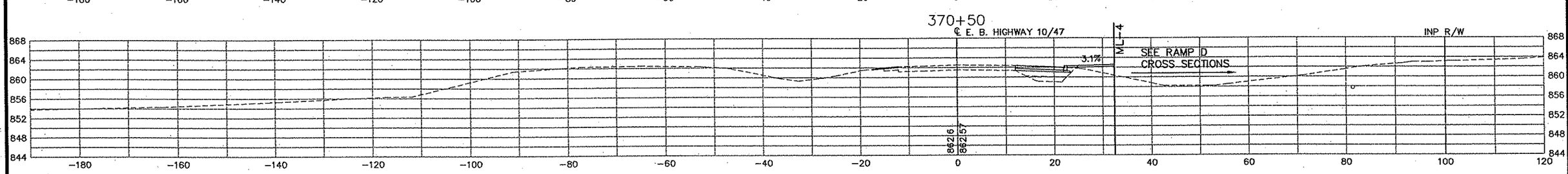
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

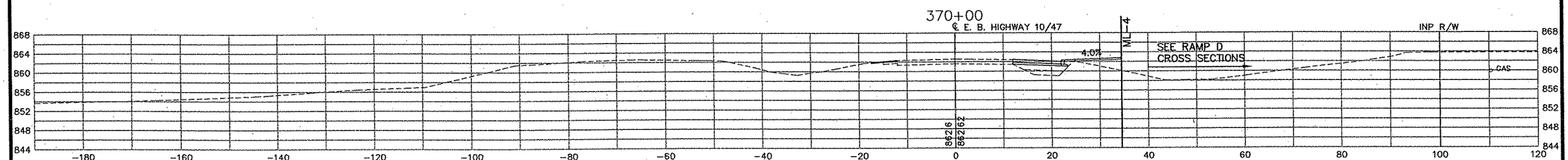
SHEET NO. 644 / 681

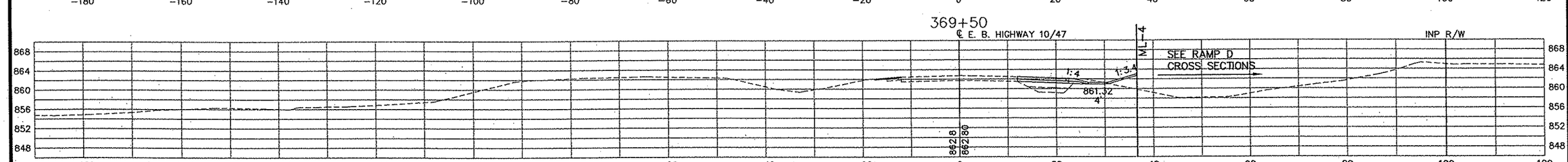
-QNTY
-hwy10
:34bdr











REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-16
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 369+50.00 TO STATION 371+50.00

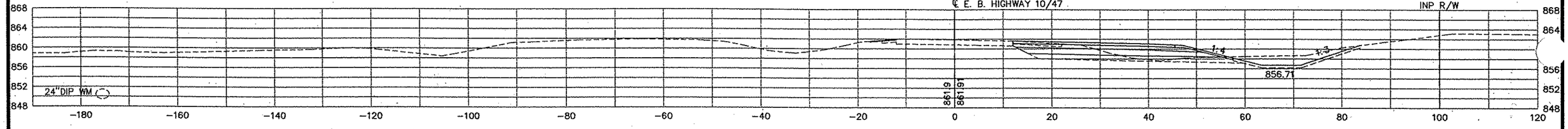
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 645 / 681

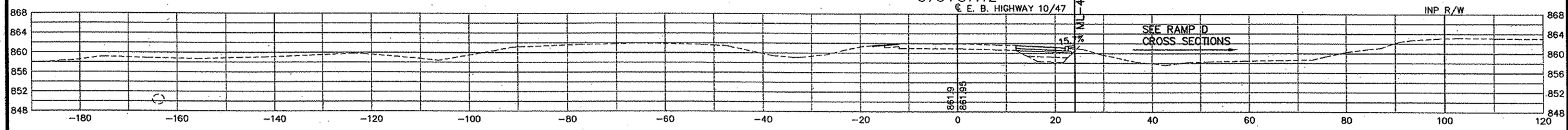
PLOT DATE: Jan 7 10:34am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-16.dwg

-QNTY
-hwy10
-34bdr

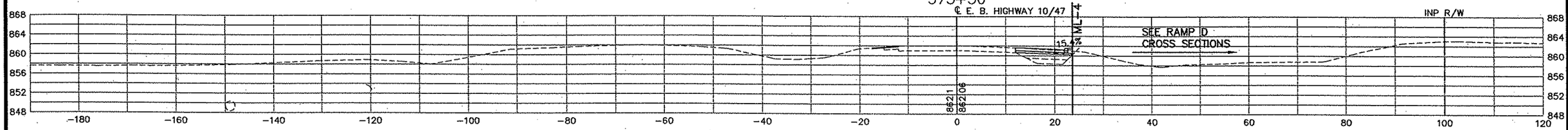
374+00



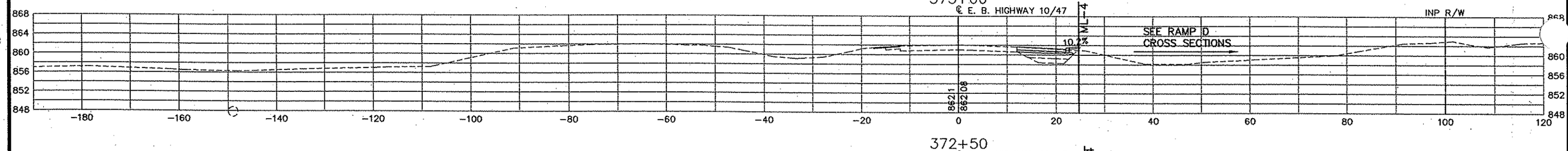
373+87.12



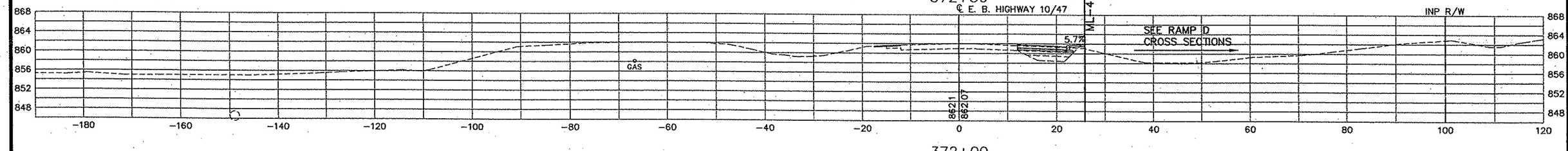
373+50



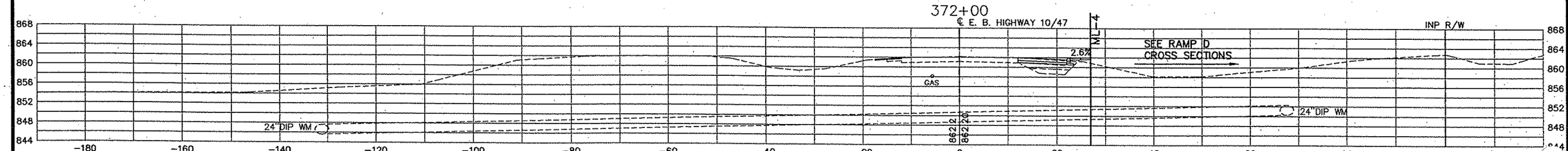
373+00



372+50



372+00



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-17
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 E.B.

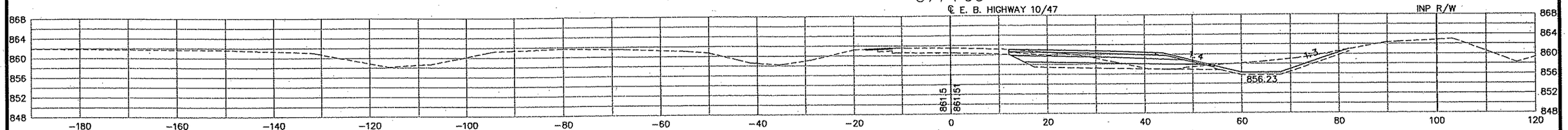
CROSS SECTIONS
STATION 372+00.00 TO STATION 374+00.00

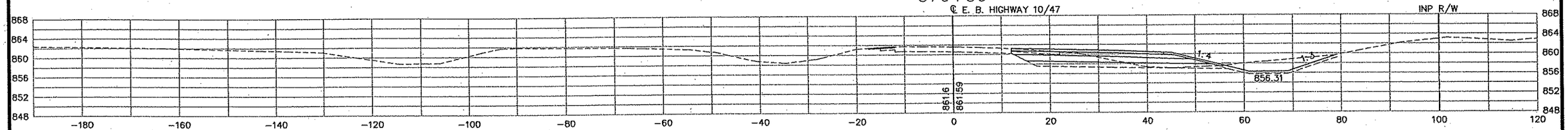
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

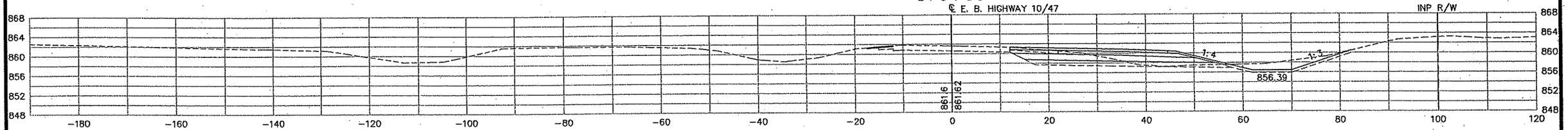
SHEET NO. 646 / 681

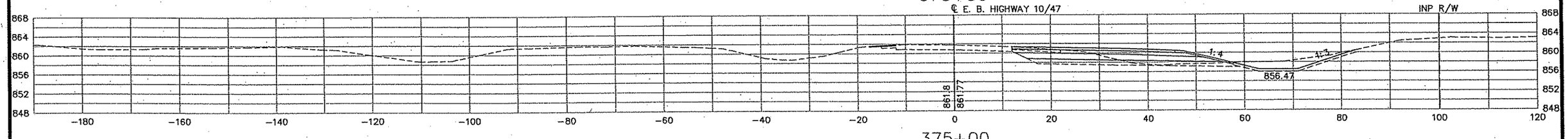
PLOT DATE: Jan 7 10:34am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-17.dwg

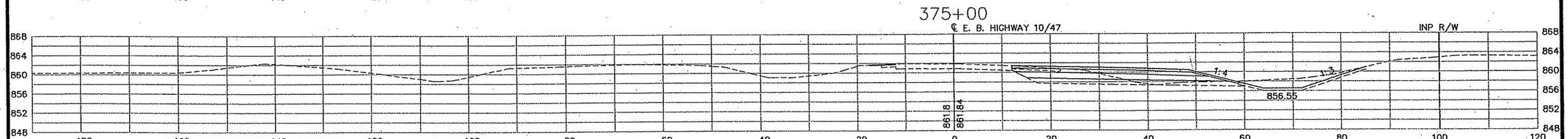
-QNTY
-hwy10
<34bdr

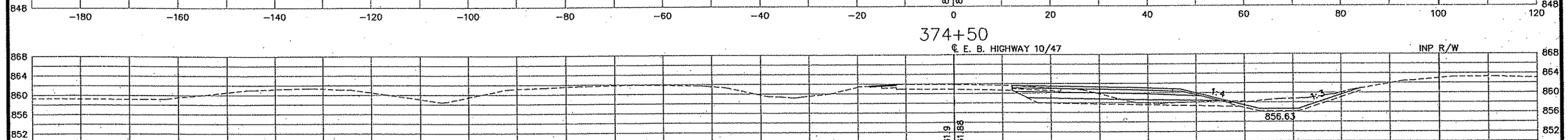












REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: PMJ	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: CSHWY-18
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 374+50.00 TO STATION 377+00.00

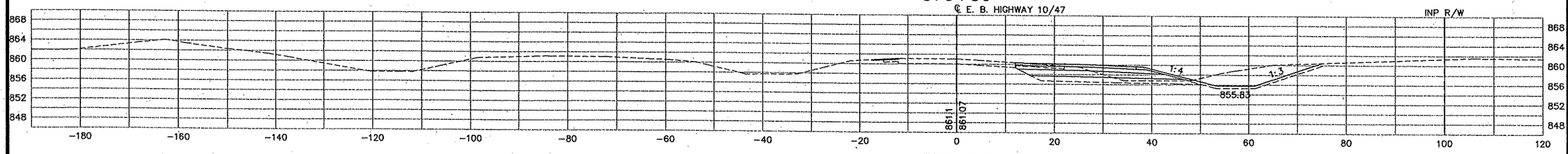
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 647 / 681

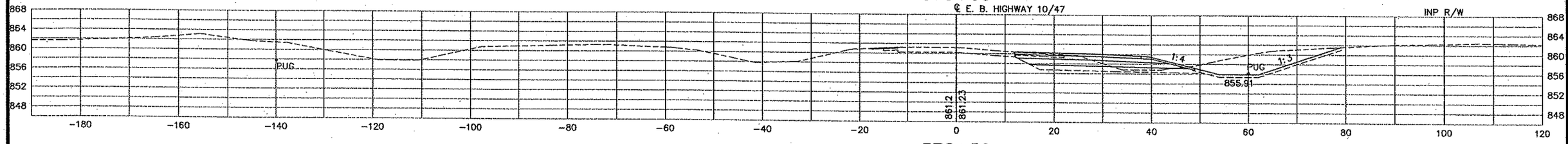
PLOT DATE: Jan 0 10:34am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-30-18.dwg
-18.dwg

-QNTY
-hwy10
:34bdr

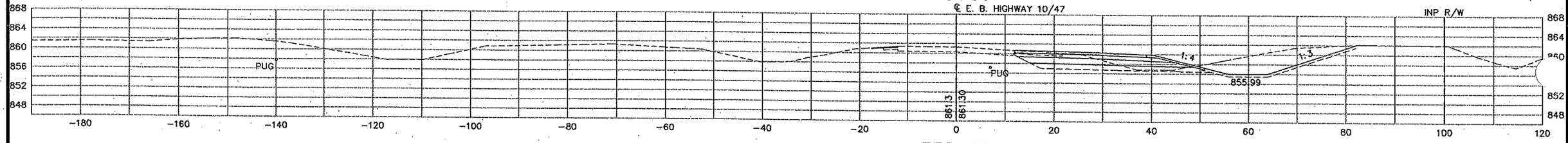
379+50



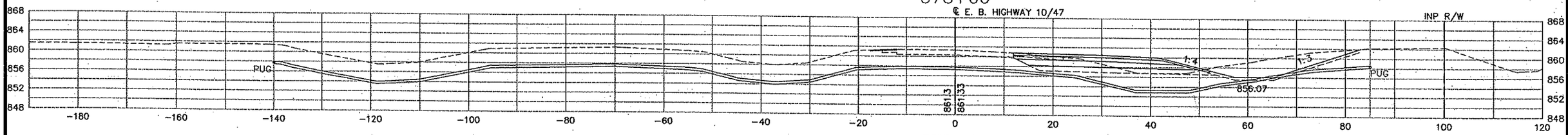
379+00



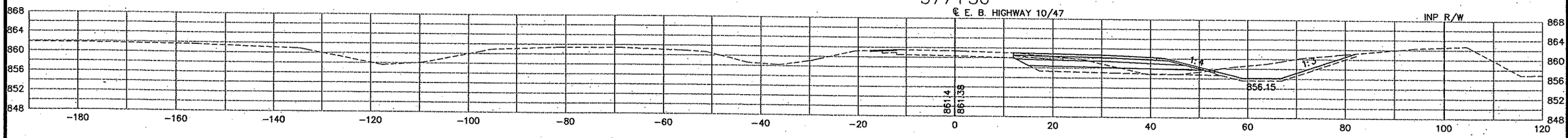
378+50



378+00



377+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-19
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

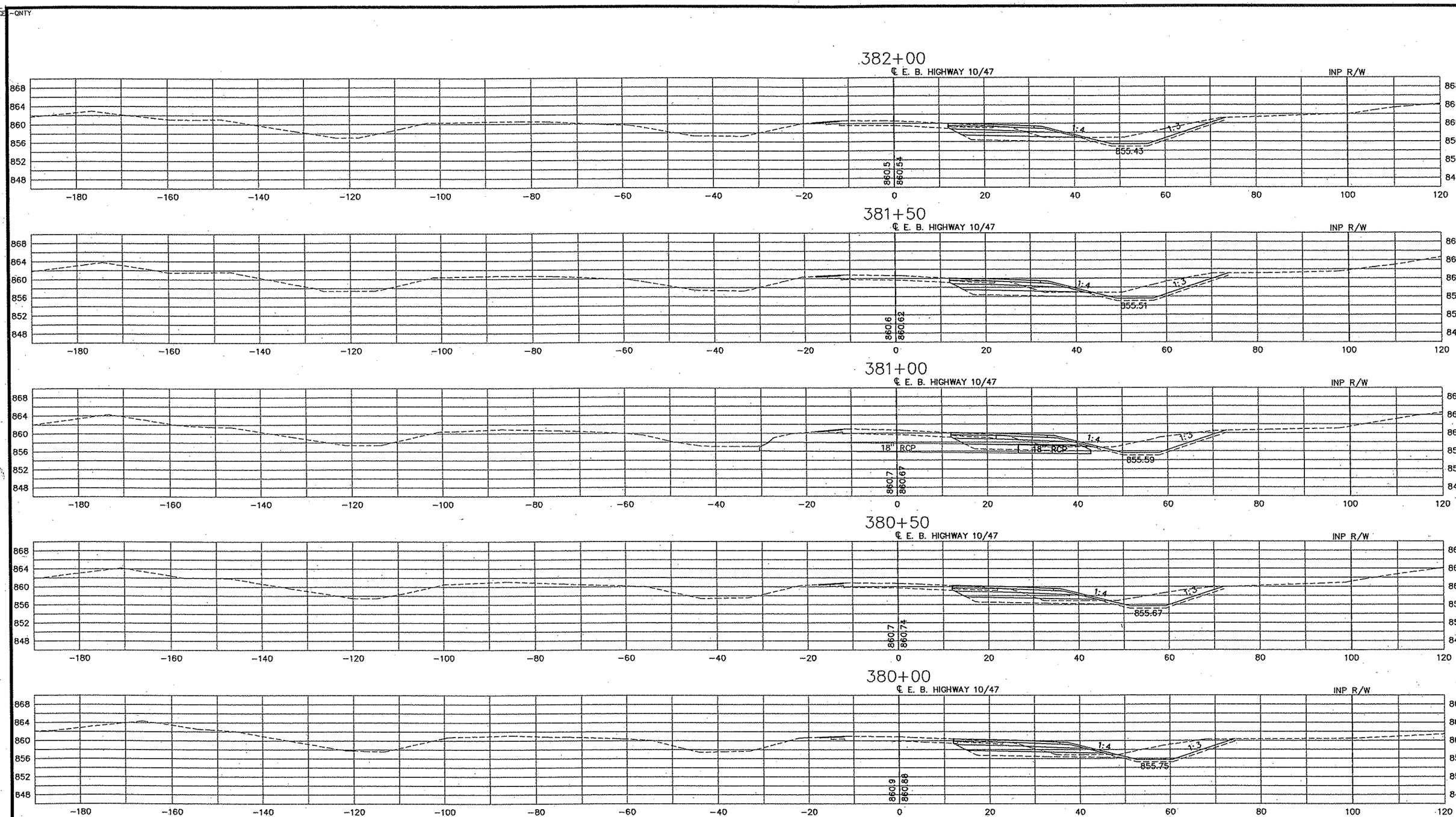
HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 377+50.00 TO STATION 379+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 648 / 681

PLOT DATE: Jan 0 10:34am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-0-19.dwg



20 OF 24

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSHWY-20
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
HIGHWAY 10/47 E.B.
CROSS SECTIONS
STATION 380+00.00 TO STATION 382+00.00

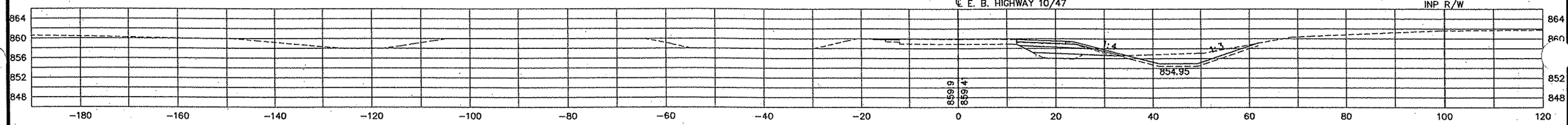
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 649 / 681

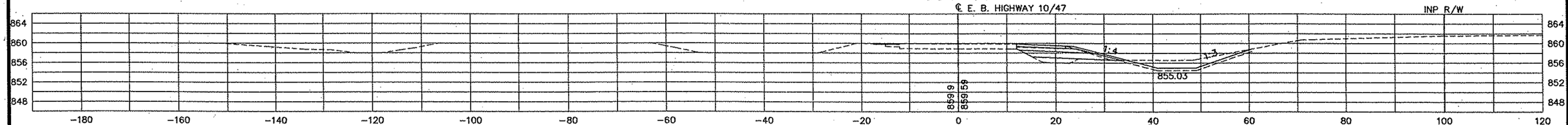
PLOT DATE: Jan 7 10:34am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-20.dwg

hwy10
34bdr

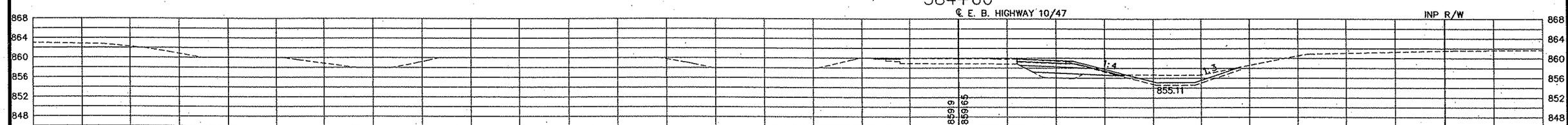
385+00



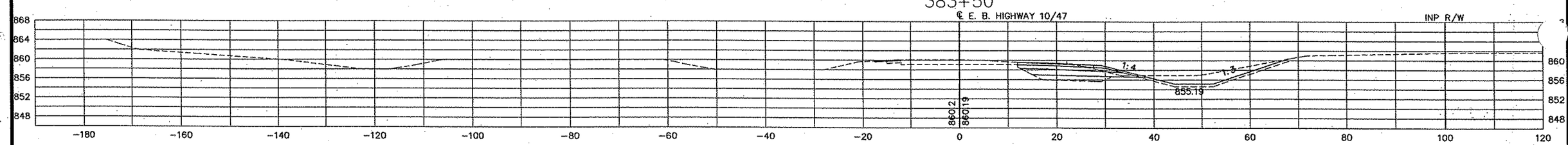
384+50



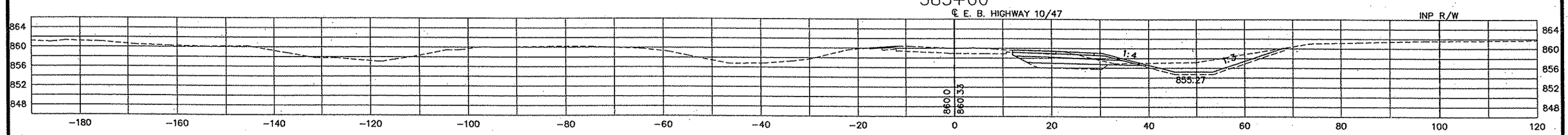
384+00



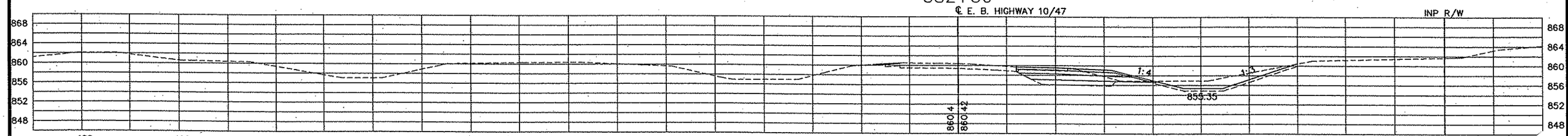
383+50



383+00



382+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY:	PMJ
DESIGN BY:	PMJ
CHKED. BY:	SAW
DWG. NAME:	CSHWY-21
DATE:	JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 382+50.00 TO STATION 385+00.00

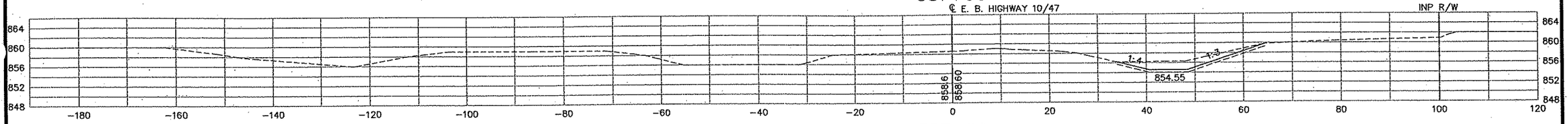
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 650 / 681

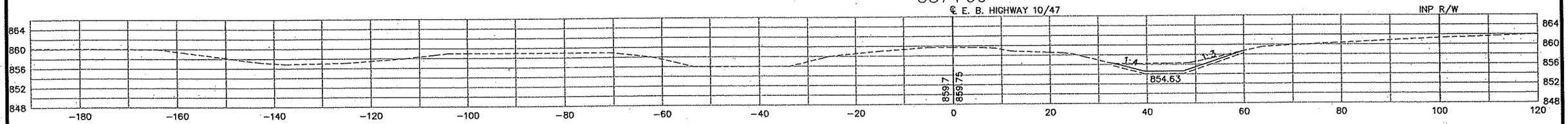
PLOT DATE: Jan 7 10:34am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-21.dwg

Xrefs Proposed CE - QNTY
hwy10
34bdr

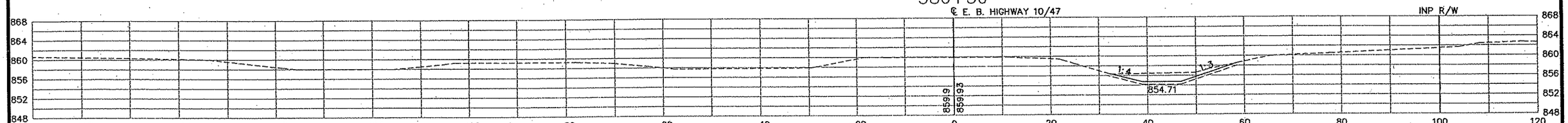
387+50



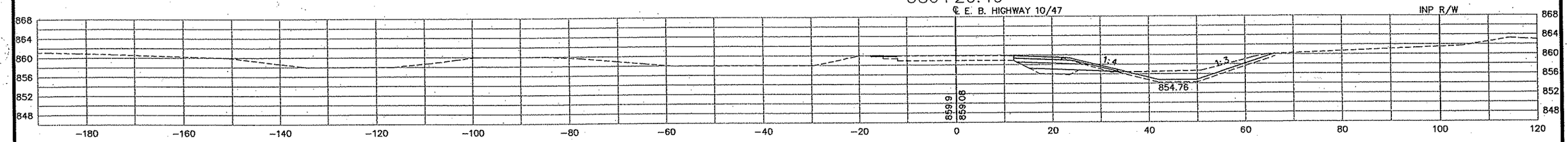
387+00



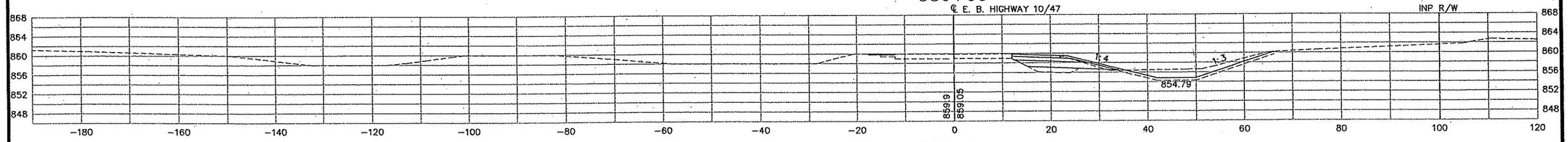
386+50



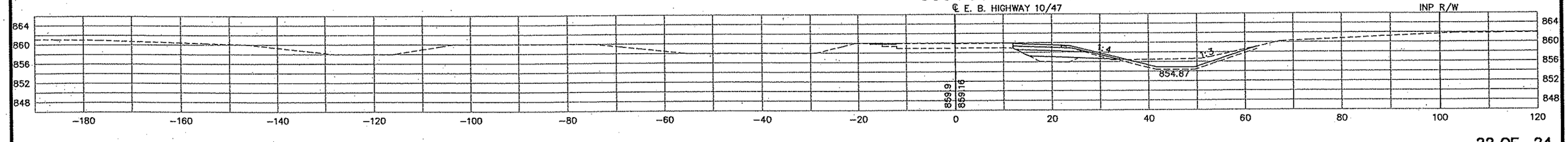
386+20.49



386+00



385+50



PLOT DATE: Jan 7, 10:35am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-22.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-22
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

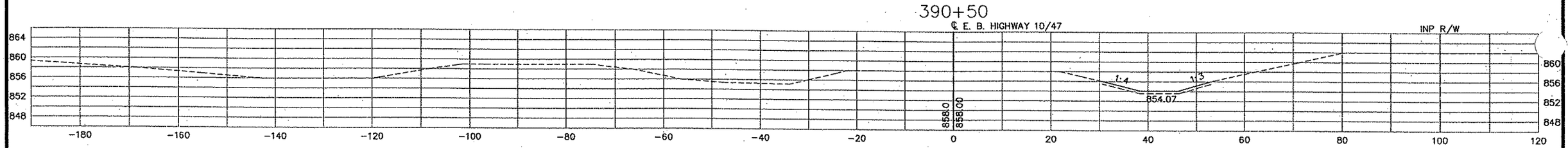
HIGHWAY 10/47 E.B.

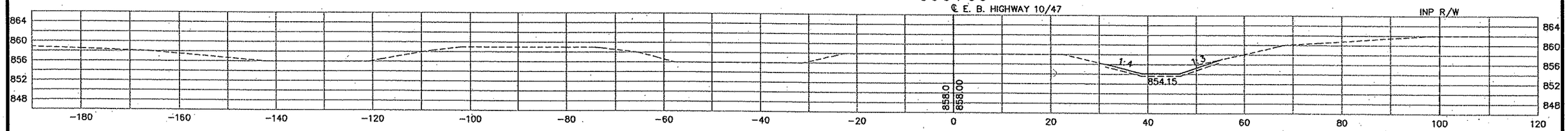
CROSS SECTIONS
STATION 385+50.00 TO STATION 387+50.00

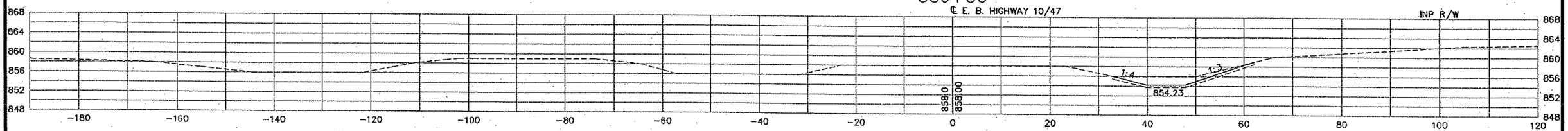
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

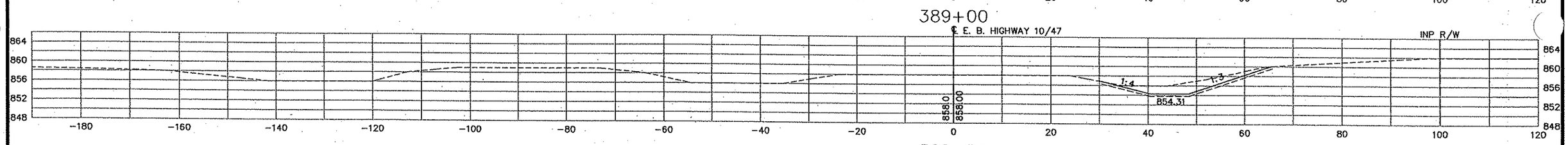
SHEET NO. 651 / 681

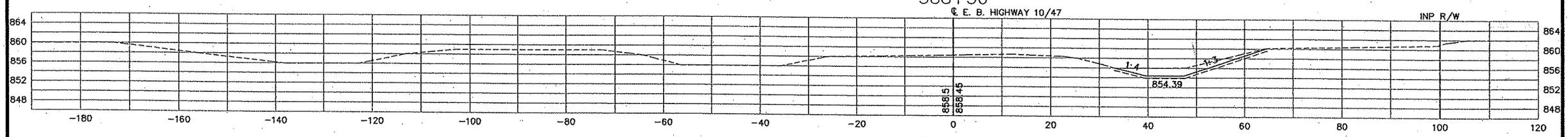
-QNTY
-hwy10
c34bdr

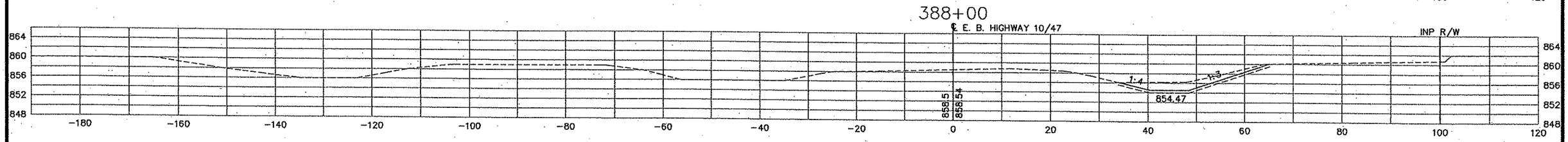












REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-23
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 388+00.00 TO STATION 390+50.00

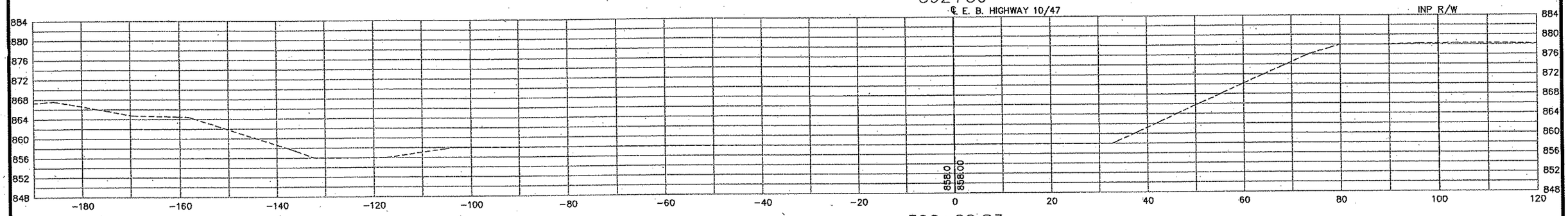
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 652 / 681

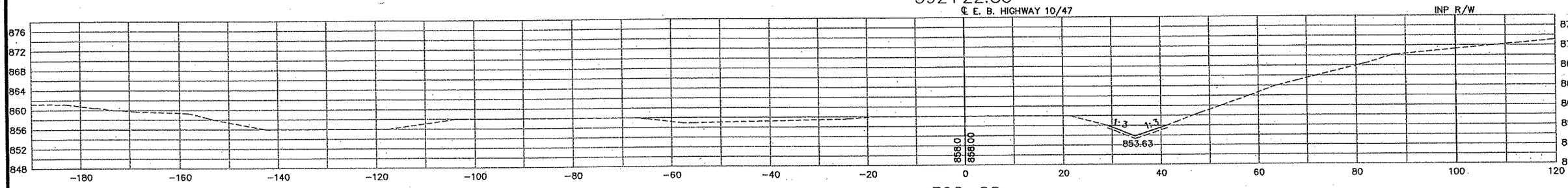
PLOT DATE: Jan 0 7 10:35am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-10-23.dwg

-QNTY
hwy10
34bdr

392+50



392+22.83



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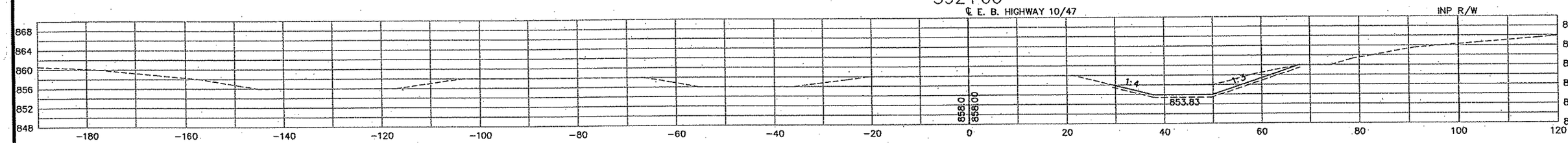

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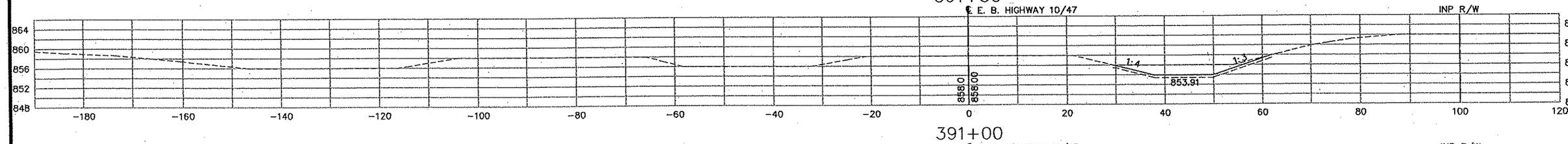
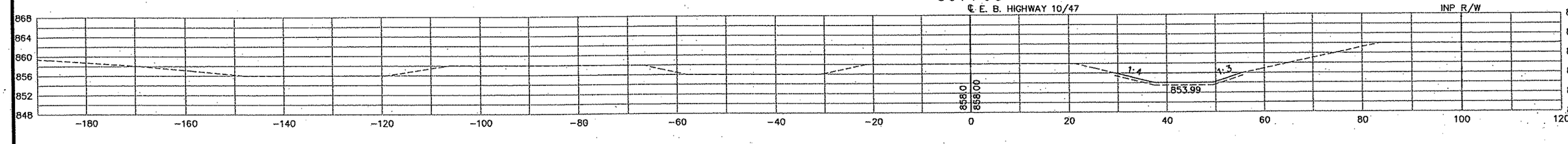


391+00



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSHWY-24
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

HIGHWAY 10/47 E.B.

CROSS SECTIONS
STATION 391+00.00 TO STATION 392+50.00

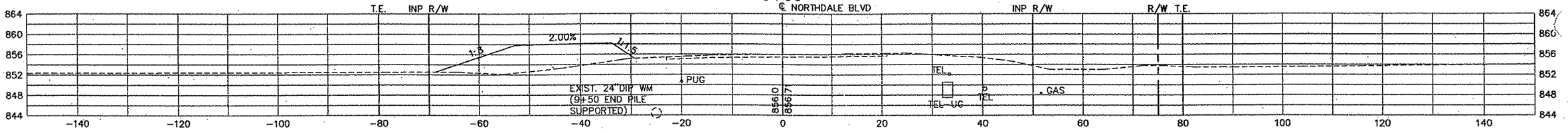
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 653 / 681

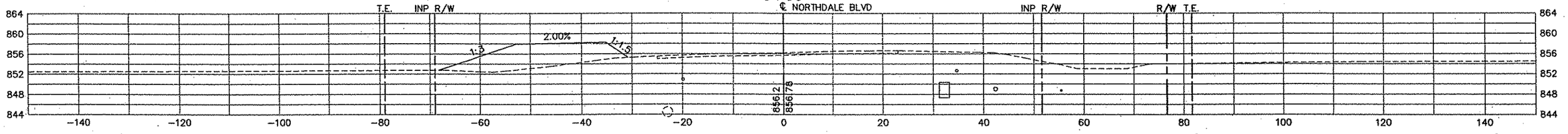
PLOT DATE: Jan J07 10:35am DISK FILE NAME: (16.1) R:\33689\33889042\PLAN-SHT\CROSS-SECTIONS\04 Y10-24.dwg

-nndale--SUR
s34bdr

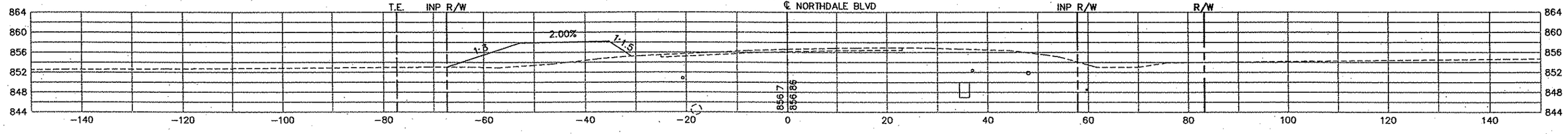
9+50



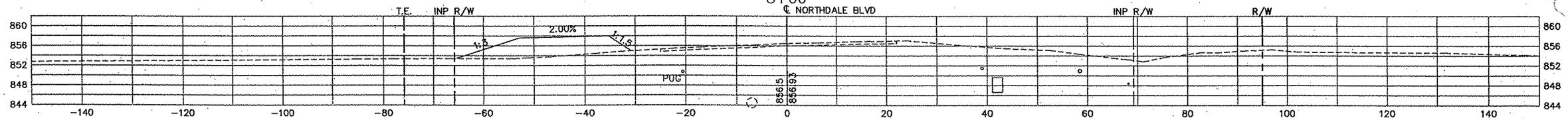
9+00



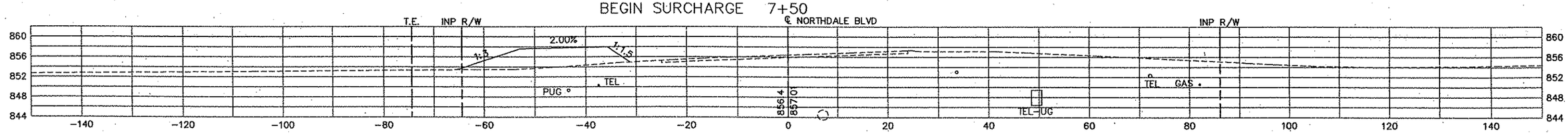
8+50



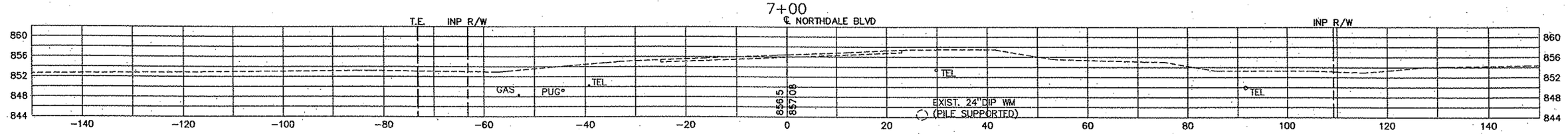
8+00



BEGIN SURCHARGE 7+50



7+00



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSNDSUR-01
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

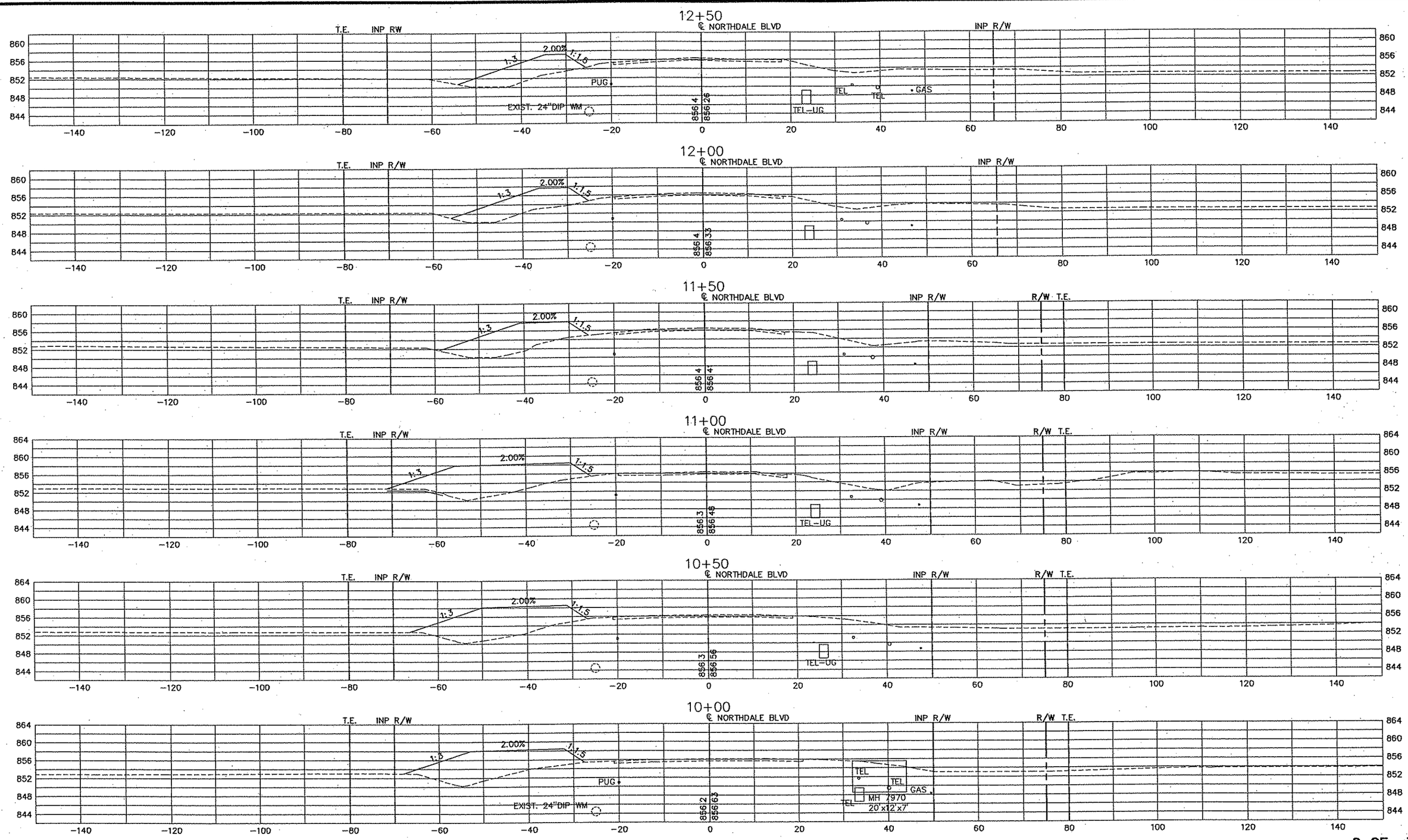
NORTHDALE BOULEVARD (C.S.A.H. 11)

SURCHARGE
CROSS SECTIONS
STATION 7+00.00 TO STATION 9+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 654 / 681

PLOT DATE: Jan 07 10:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-SUR-01.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSNDSUR-02
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

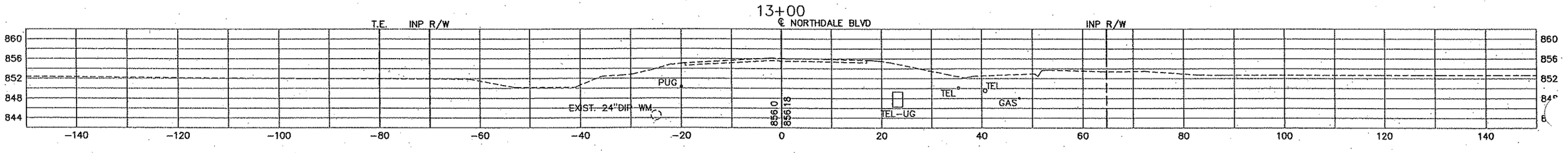
NORTHDALE BOULEVARD (C.S.A.H. 11)

SURCHARGE
CROSS SECTIONS
STATION 10+00.00 TO STATION 12+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 655 / 681

PLOT DATE: Jan 07 10:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-SUR-02.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSNDSUR-03
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
NORTHDALE BOULEVARD (C.S.A.H. 11)
SURCHARGE
CROSS SECTIONS
STATION 13+00.00

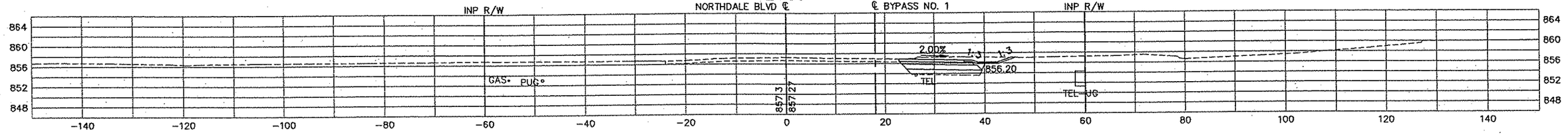
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 656 / 681

PLOT DATE: Jan 07 10:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-SUR-03.dwg

nndale-temp
:34bdr

2+50



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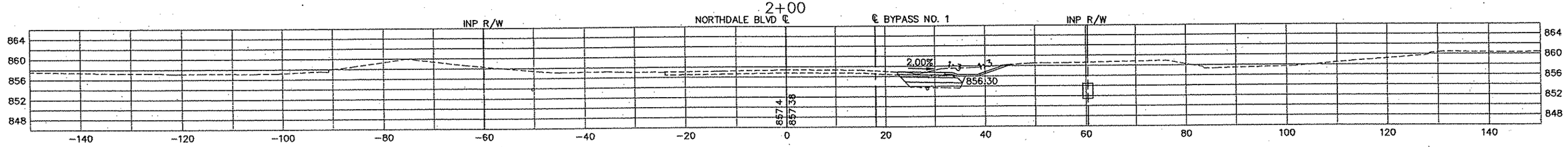

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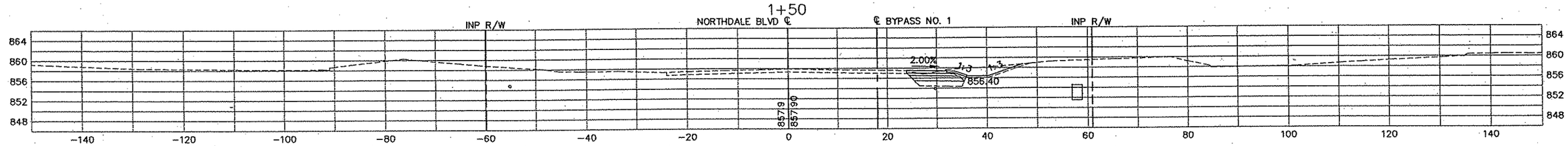

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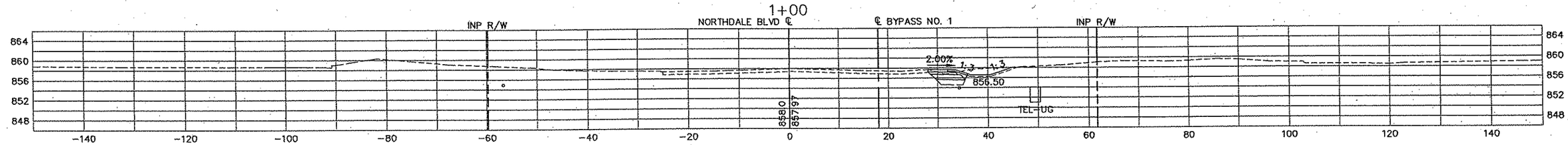

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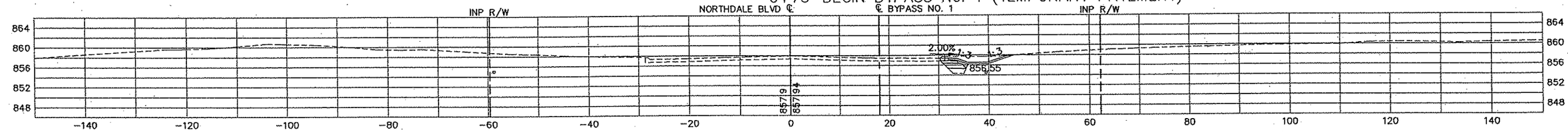

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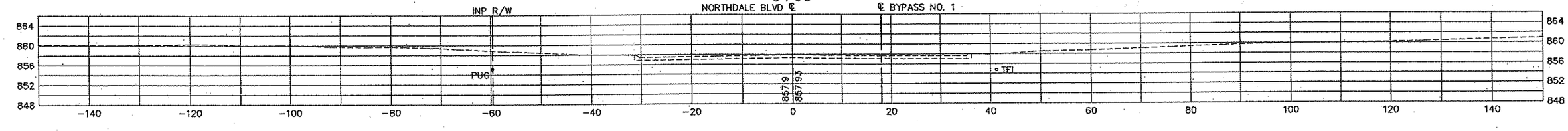

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSNDTEM-01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

NORTHDALE BOULEVARD (C.S.A.H. 11)

TEMPORARY PAVEMENT (STAGE 1 PHASE 2A)
CROSS SECTIONS
STATION 0+65.00 TO STATION 2+50.00

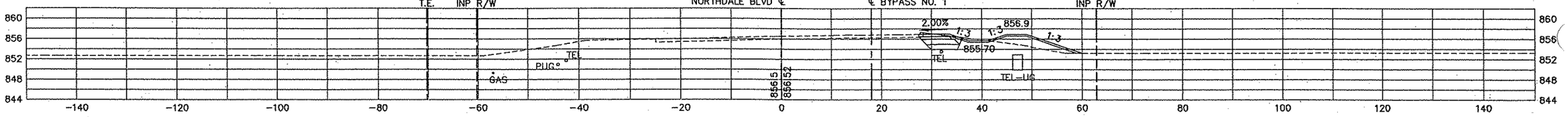
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 657 / 681

PLOT DATE: Jan 07 10:38am DISK: FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-TEMP-01.dwg

PLOT DATE: Jan 07 10:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-TEMP-02.dwg

5+00



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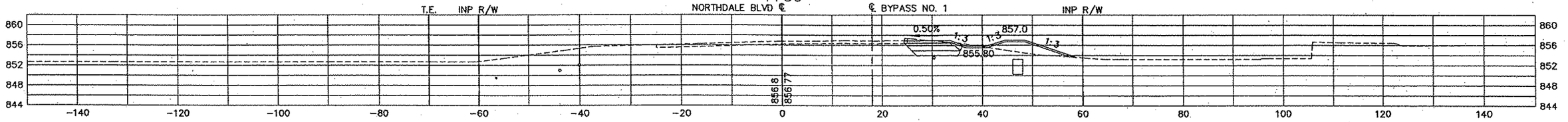
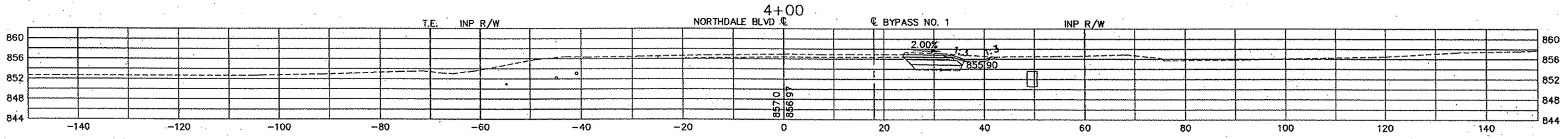
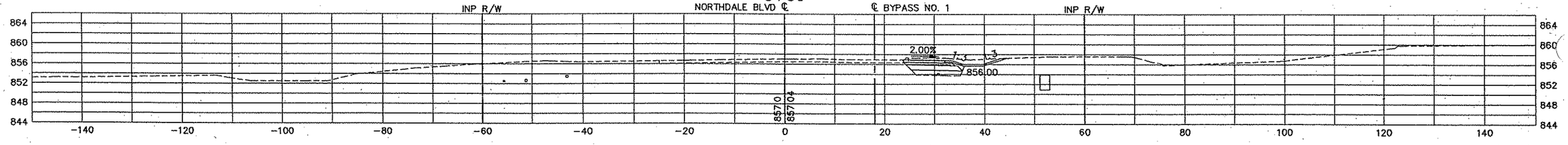


4+00



3+50



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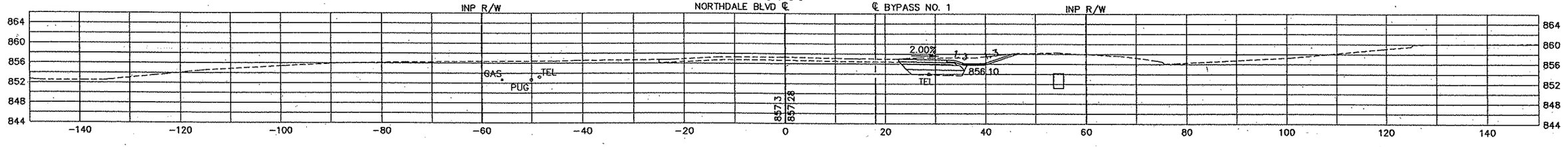
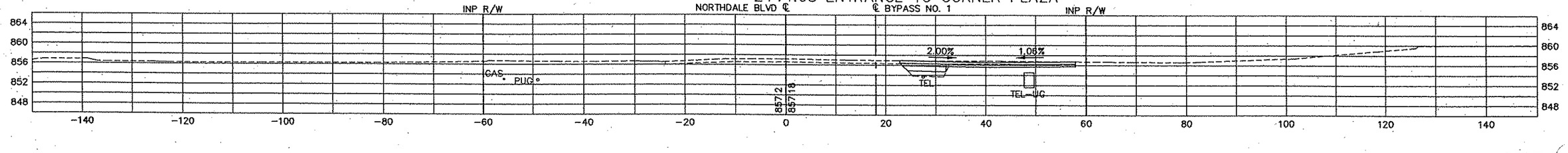


2+71.68 ENTRANCE TO CORNER PLAZA



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSNDTEM-02
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

NORTHDALE BOULEVARD (C.S.A.H. 11)

TEMPORARY PAVEMENT (STAGE 1 PHASE 2A)
CROSS SECTIONS
STATION 2+71.68 TO STATION 5+00.00

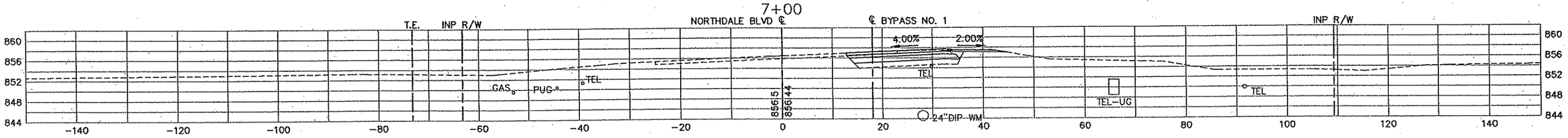
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 658 / 681

2 OF

-nndale-temp
34bdr

7+00



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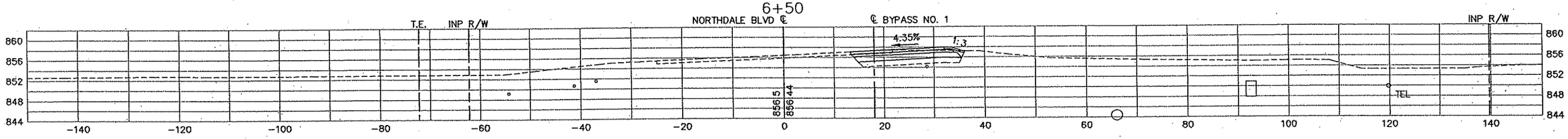
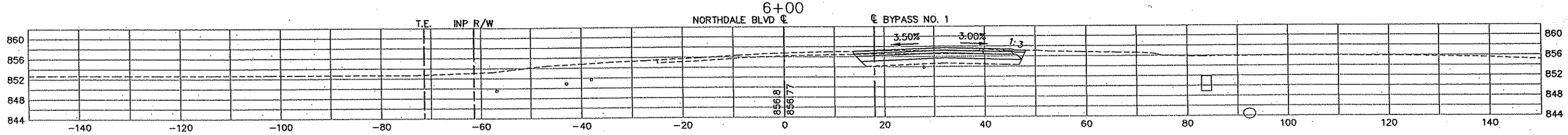
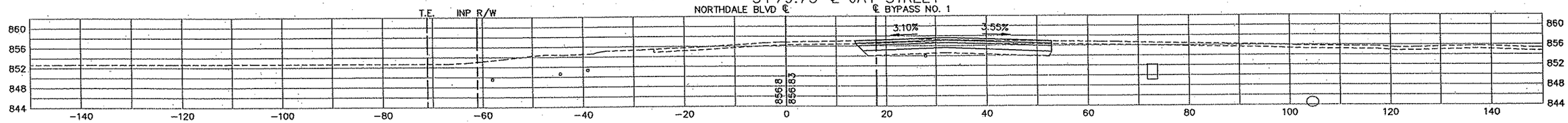


6+00



5+79.73 ℄ JAY STREET



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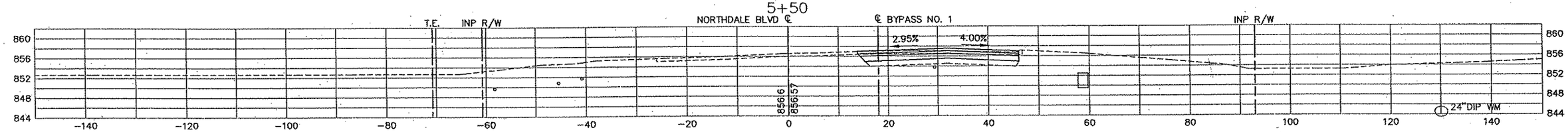

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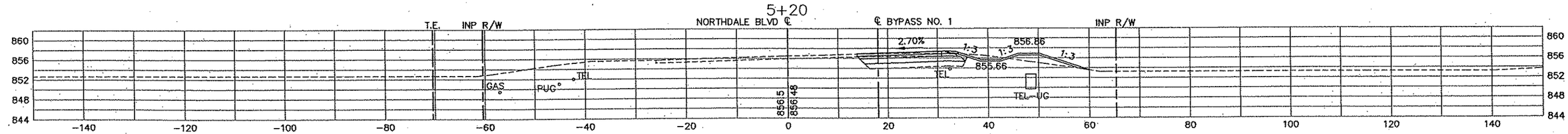

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSNDTEM-03
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

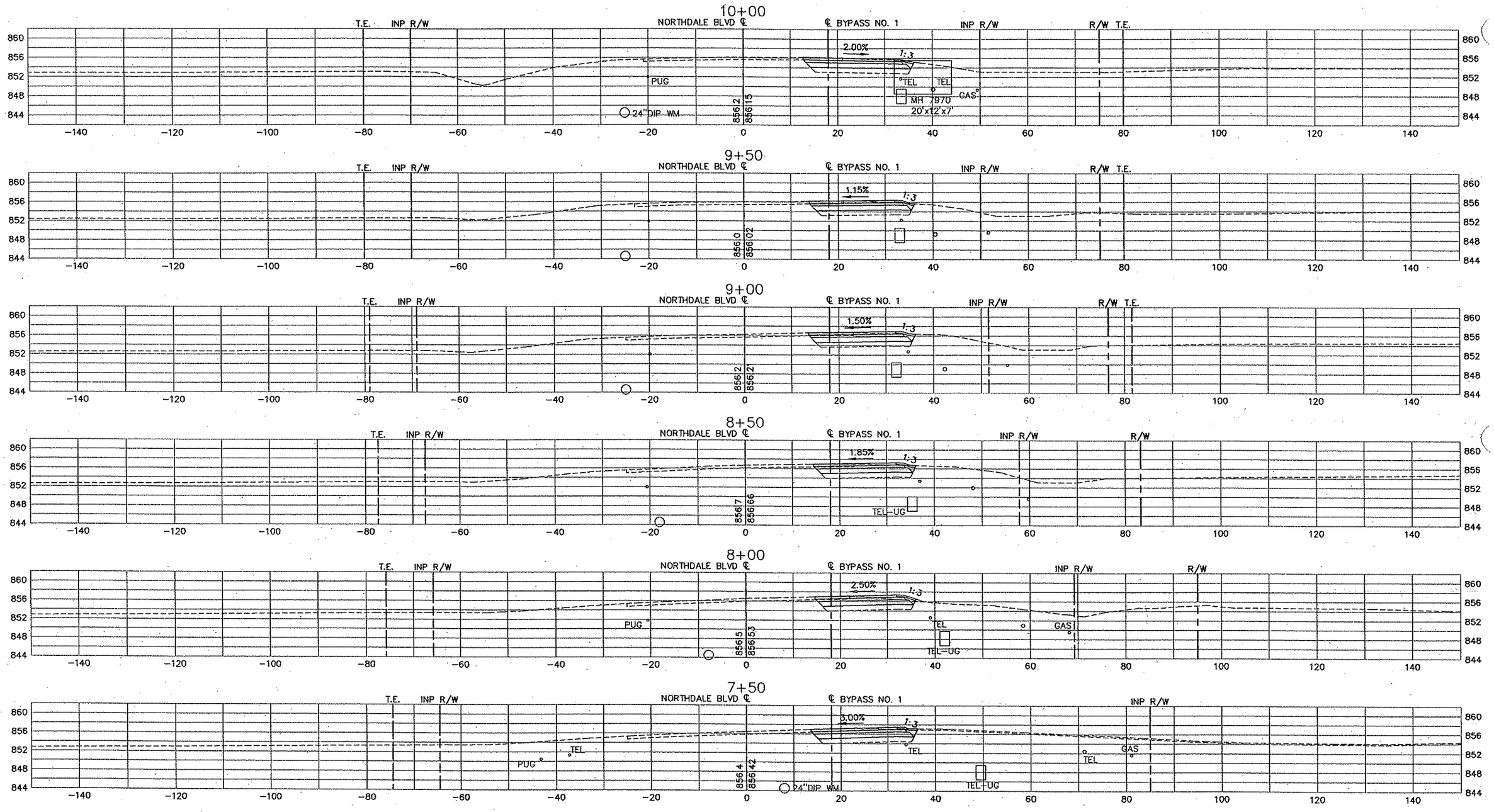
NORTHDALE BOULEVARD (C.S.A.H. 11)

TEMPORARY PAVEMENT (STAGE 1 PHASE 2A)
CROSS SECTIONS
STATION 5+20.00 TO STATION 7+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 659 / 681

PLOT DATE: Jan .007 10:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-TEMP-03.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSNDTEM-04
DATE: JANUARY 8, 2007

URS
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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

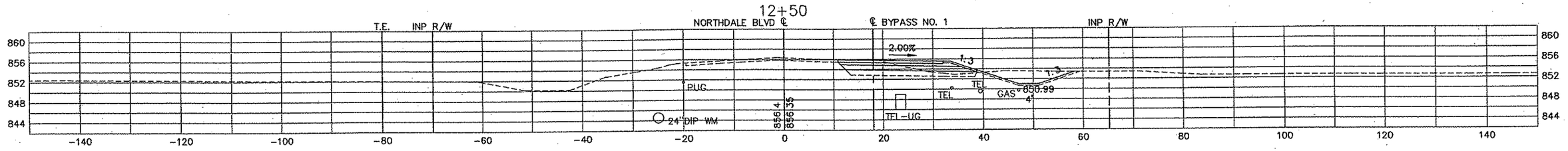
NORTHDALE BOULEVARD (C.S.A.H. 11)

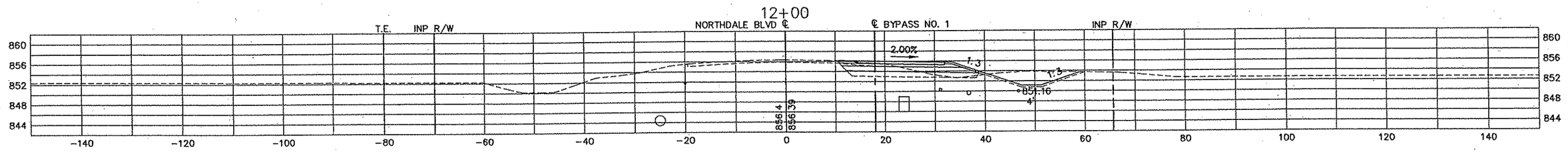
TEMPORARY PAVEMENT (STAGE 1 PHASE 2A)
CROSS SECTIONS
STATION 7+50.00 TO STATION 10+00.00

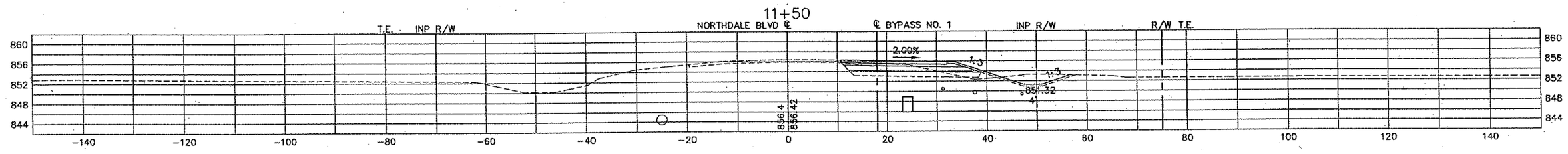
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

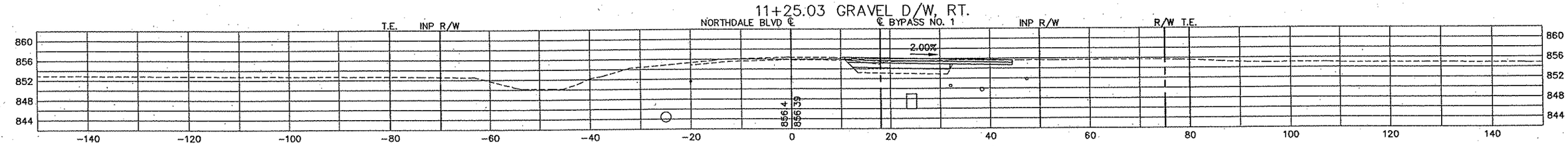
SHEET NO. 660 / 681

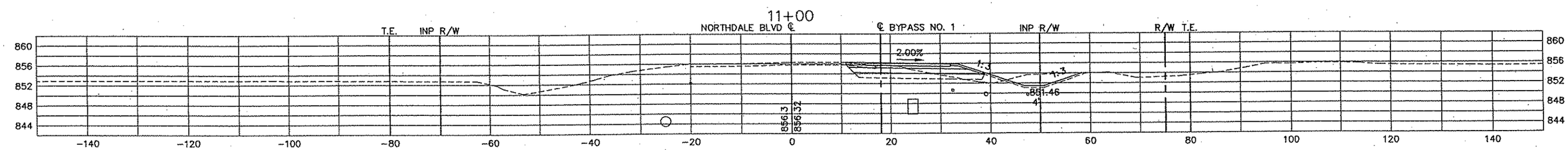
PLOT DATE: Jan 07 10:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-TEMP-04.dwg

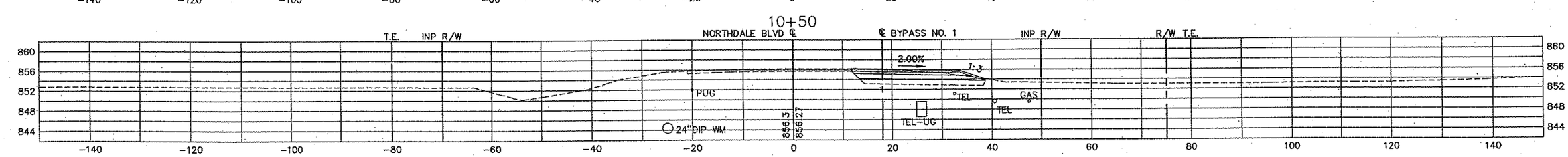












REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSNDTEM-05
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

NORTHDALE BOULEVARD (C.S.A.H. 11)

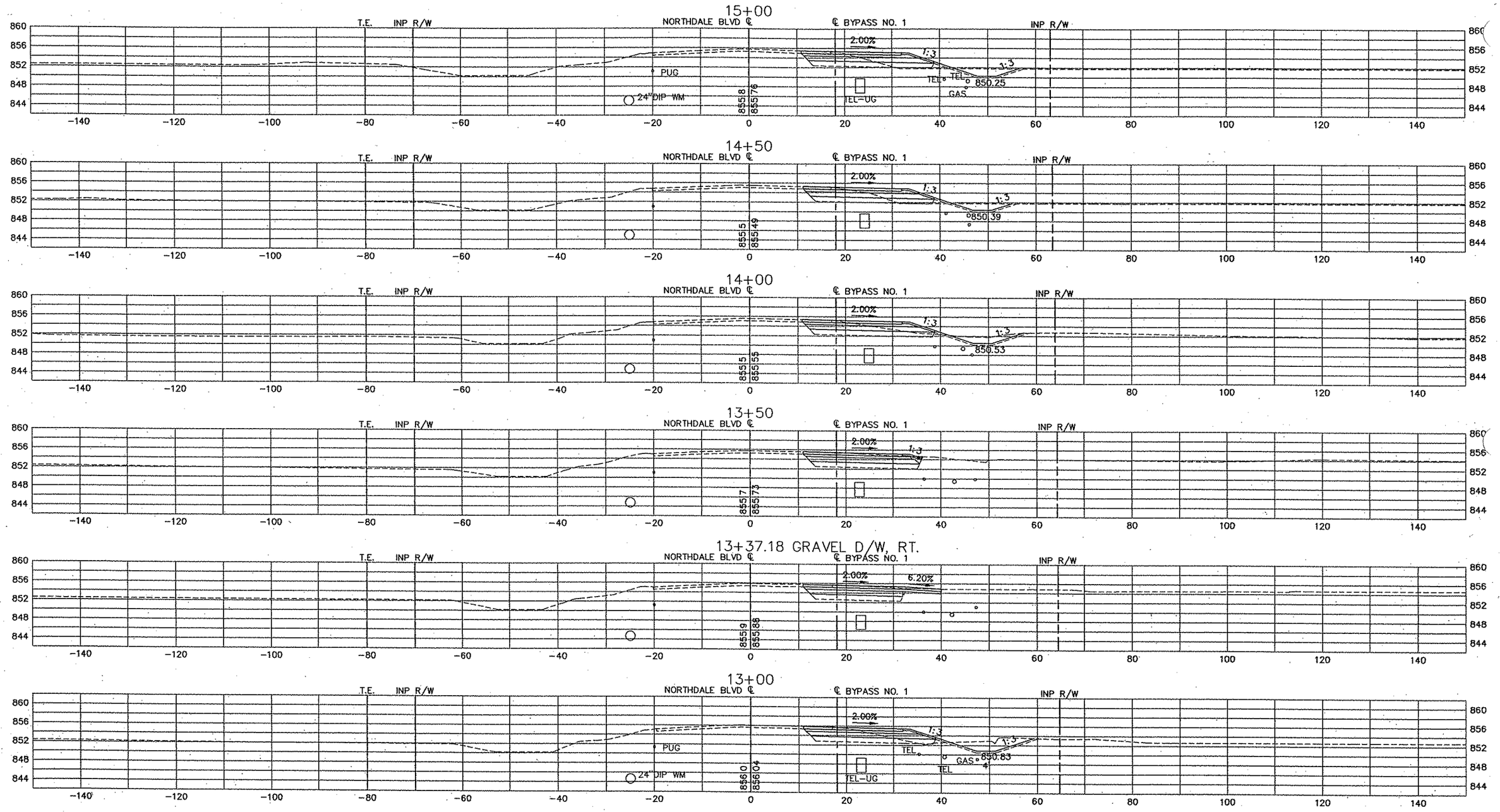
TEMPORARY PAVEMENT (STAGE 1 PHASE 2A)
CROSS SECTIONS
STATION 10+50.00 TO STATION 12+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 661 / 681

PLOT DATE: Jan 07 10:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-TEMP-05.dwg

-nndale-temp
c34bdr



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSNDTEM-06
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

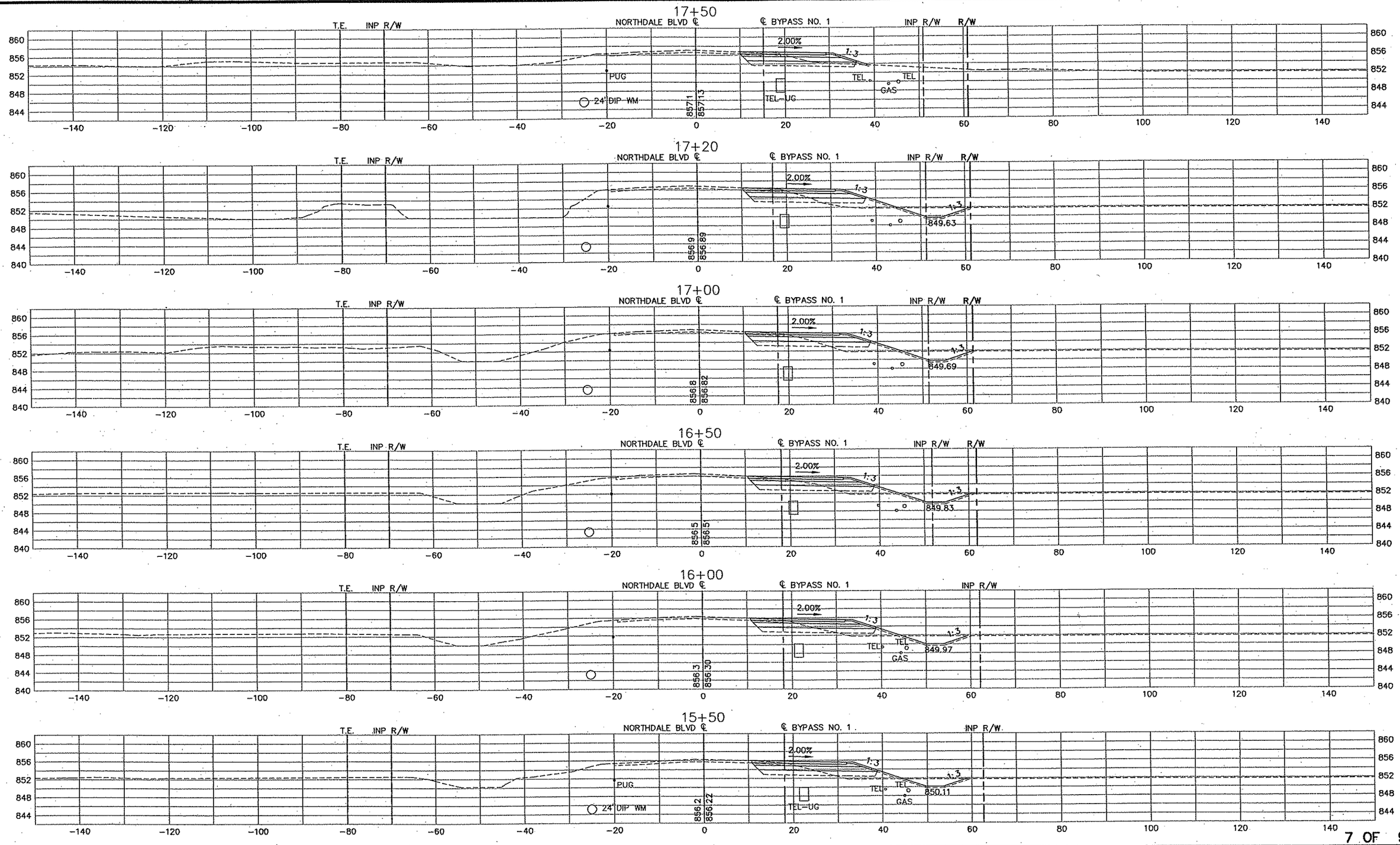
NORTHDALE BOULEVARD (C.S.A.H. 11)

TEMPORARY PAVEMENT (STAGE 1 PHASE 2A)
CROSS SECTIONS
STATION 13+00.00 TO STATION 15+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 662 / 681

PLOT DATE: Jan 07 10:38am DISK: FILE NAME: (16.1) R:\33689\33889042\PLAN-SHT\CROSS-SECTIONS\04-TEMP-06.dwg



7 OF 9

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSNDTEM-07
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

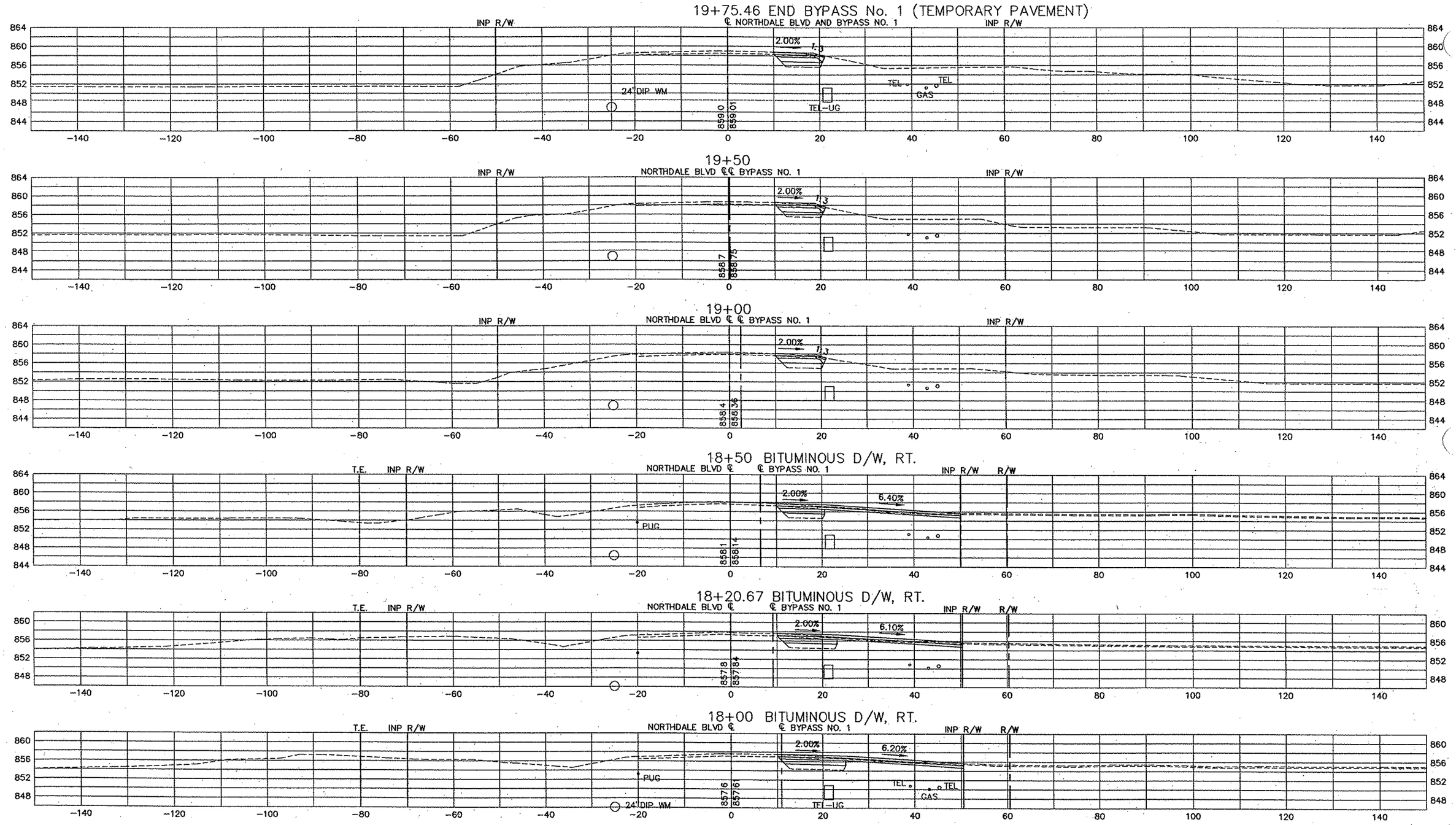
NORTHDALE BOULEVARD (C.S.A.H. 11)

TEMPORARY PAVEMENT (STAGE 1 PHASE 2A)
CROSS SECTIONS
STATION 15+50.00 TO STATION 17+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 663 / 681

PLOT DATE: Jan 07 10:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-TEMP-07.dwg



8 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSNDTEM-08
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
NORTHDALE BOULEVARD (C.S.A.H. 11)
TEMPORARY PAVEMENT (STAGE 1 PHASE 2A)
CROSS SECTIONS
STATION 18+00.00 TO STATION 19+75.46

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 664 / 681

PLOT DATE: Jan 07 10:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-TEMP-08.dwg

-nndale-temp
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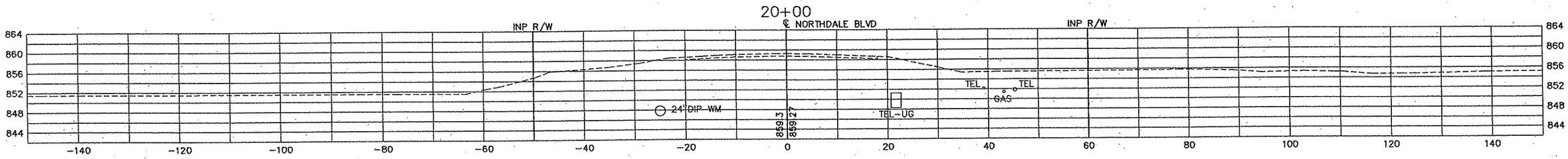

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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSNDTEM-09
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

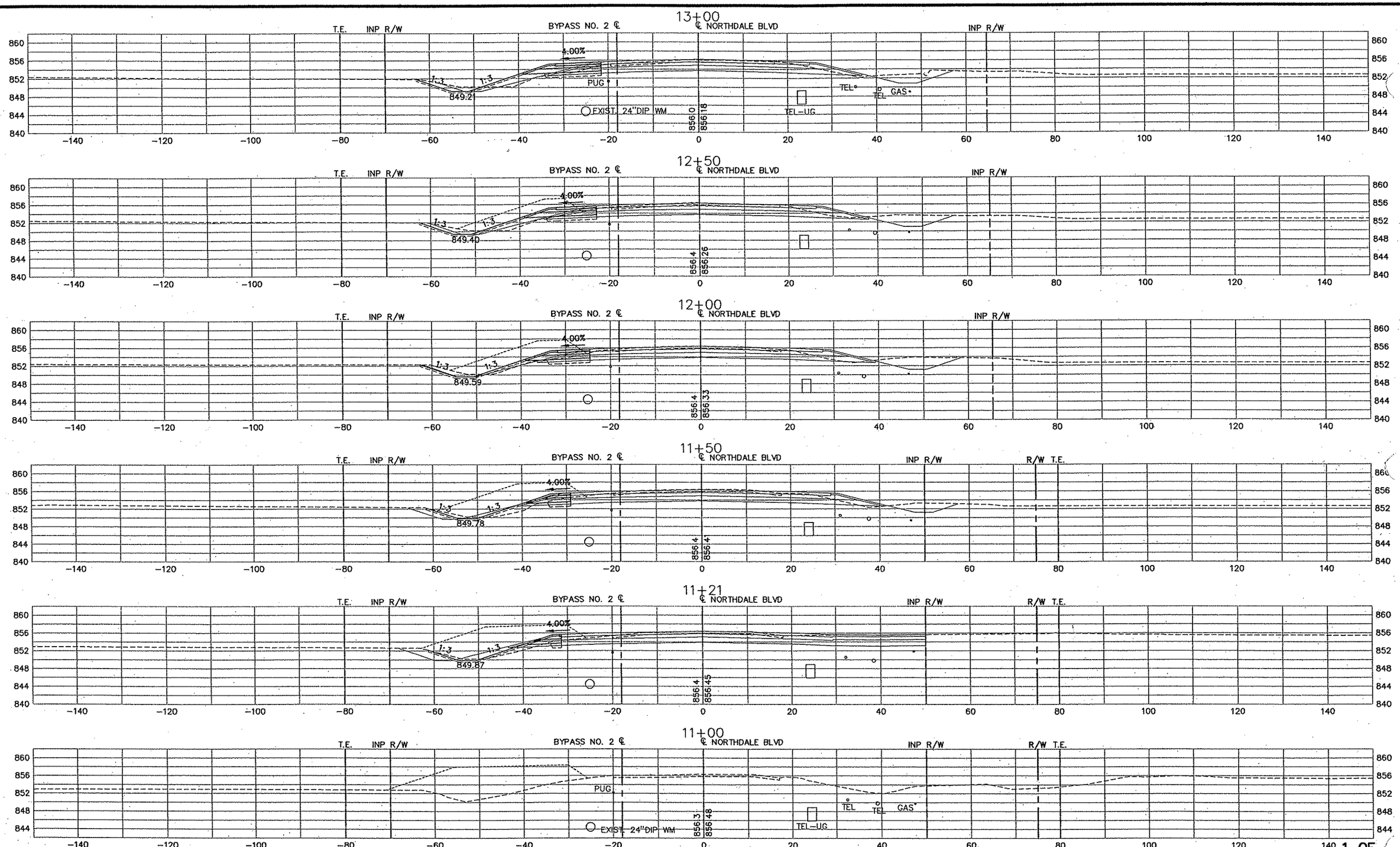
TH 10/HANSON BOULEVARD INTERCHANGE

NORTHDALE BOULEVARD (C.S.A.H. 11)

TEMPORARY PAVEMENT (STAGE 1 PHASE 2A)
CROSS SECTIONS
STATION 20+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 665 / 681



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSNDTEM2-1
DATE: JANUARY 8, 2007

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Minneapolis, MN 55415
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KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

NORTHDALE BOULEVARD (C.S.A.H. 11)

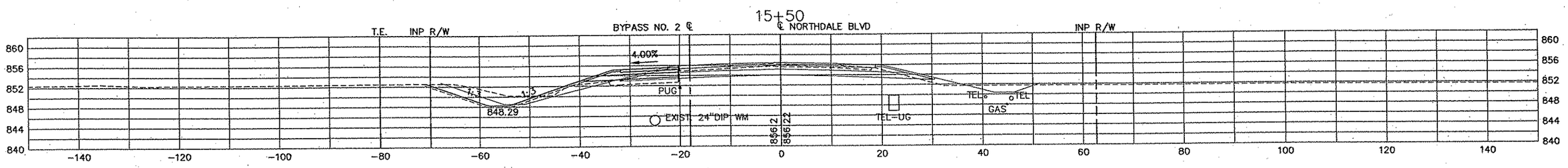
TEMPORARY PAVEMENT (STAGE 2 PHASE 1)
CROSS SECTIONS
STATION 11+00.00 TO STATION 13+00.00

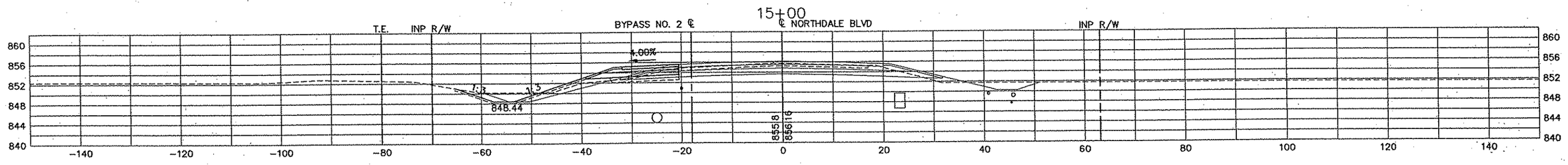
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

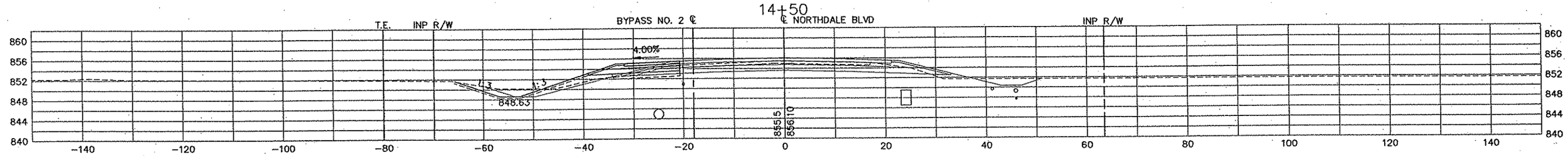
SHEET NO. 666 / 681

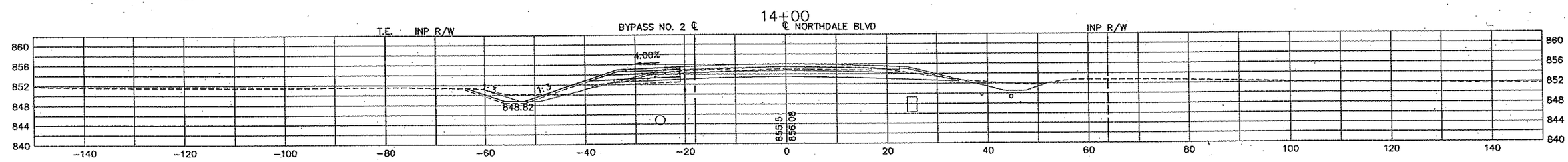
1 OF

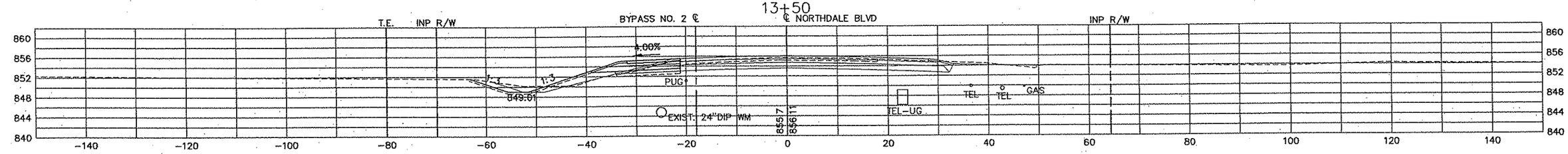
PLOT DATE: Jan 2007 10:39am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-TEMP2-01.dwg











REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSNDTEM2-2
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

NORTHDALE BOULEVARD (C.S.A.H. 11)

TEMPORARY PAVEMENT (STAGE 2 PHASE 1)
CROSS SECTIONS
STATION 13+50.00 TO STATION 15+50.00

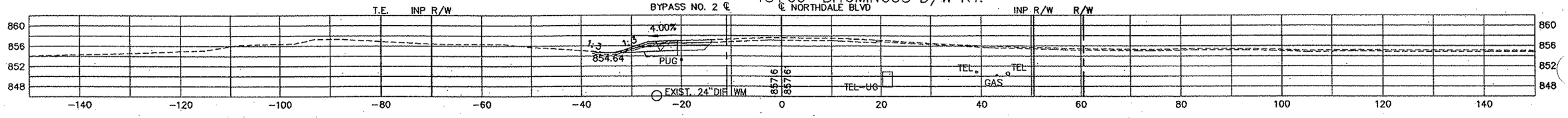
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 667 / 681

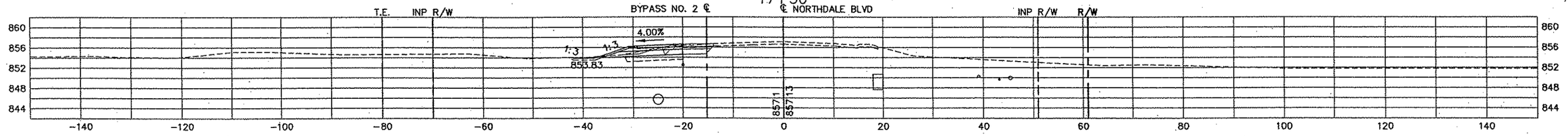
PLOT DATE: Jan 07 10:39am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-TEMP2-02.dwg

-nndale--temp-
c34bdr

18+00 BITUMINOUS D/W RT.



17+50



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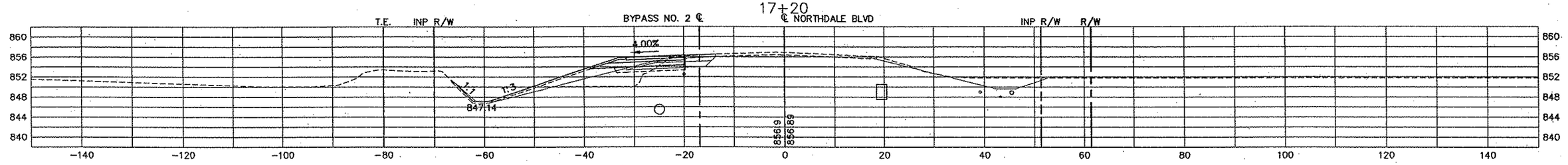
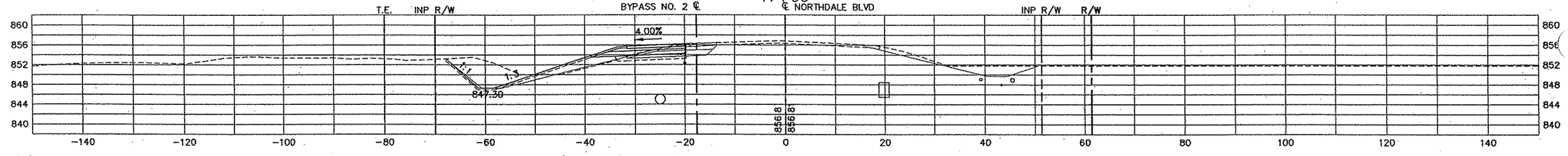


17+00



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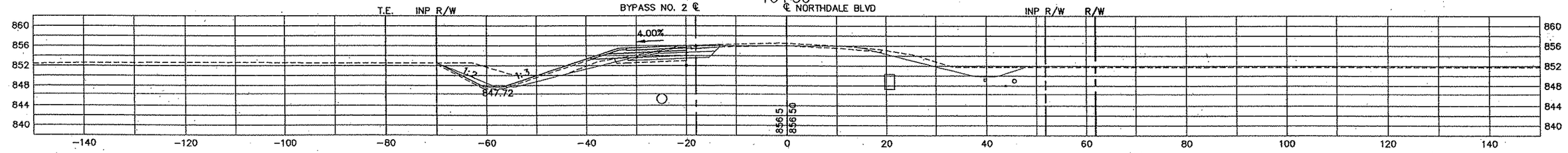

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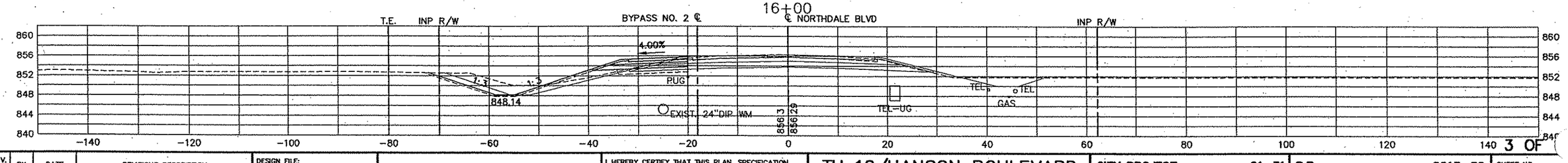

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSNDTEM2-3
DATE: JANUARY 8, 2007

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700 Third Street South
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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

NORTHDALE BOULEVARD (C.S.A.H. 11)

TEMPORARY PAVEMENT (STAGE 2 PHASE 1)
CROSS SECTIONS
STATION 16+00.00 TO STATION 18+00.00

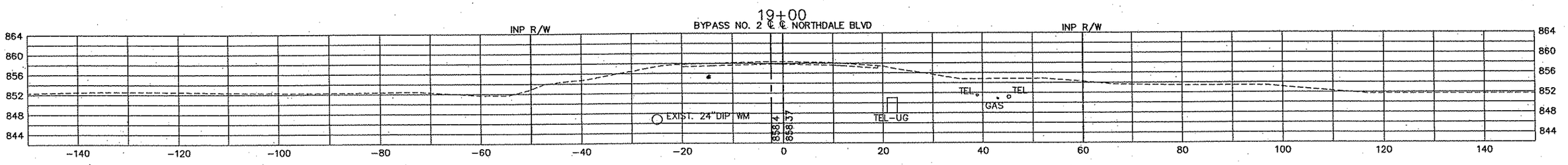
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

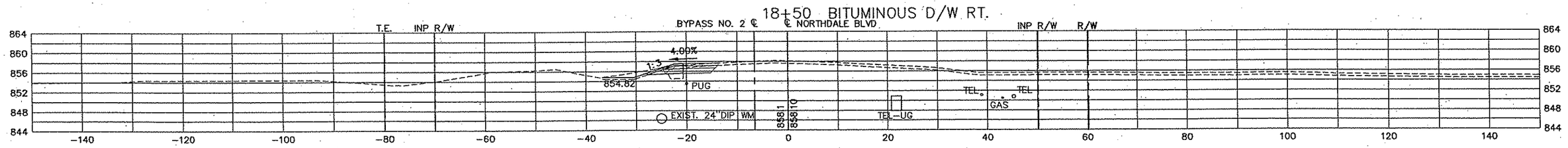
SHEET NO. 668 / 681

3 OF

PLOT DATE: Jan 07 10:39am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-TEMP2-03.dwg

-nndole-temp-
x34bdr





PLOT DATE: Jan 307 10:39am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-TEMP2-04.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSNDTEM2-4
DATE: JANUARY 8, 2007

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

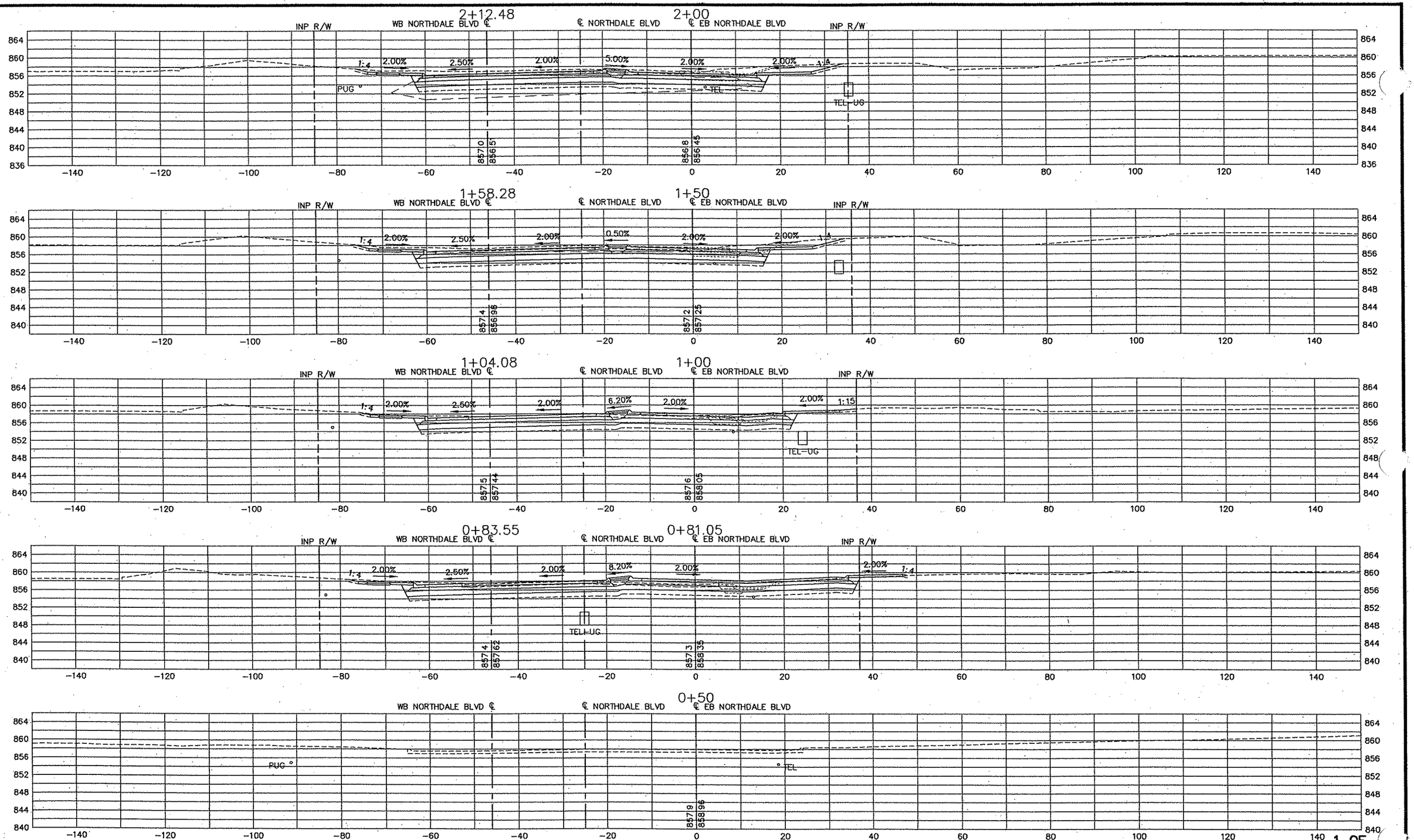
NORTHDALE BOULEVARD (C.S.A.H. 11)

TEMPORARY PAVEMENT (STAGE 2 PHASE 1)
CROSS SECTIONS
STATION 18+50.00 TO STATION 19+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 669 / 681

Xref'd Drawings
042-NDALE-CTY
cs-nndale
22x34bdr



1 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSND-01
DATE: JANUARY 8, 2007

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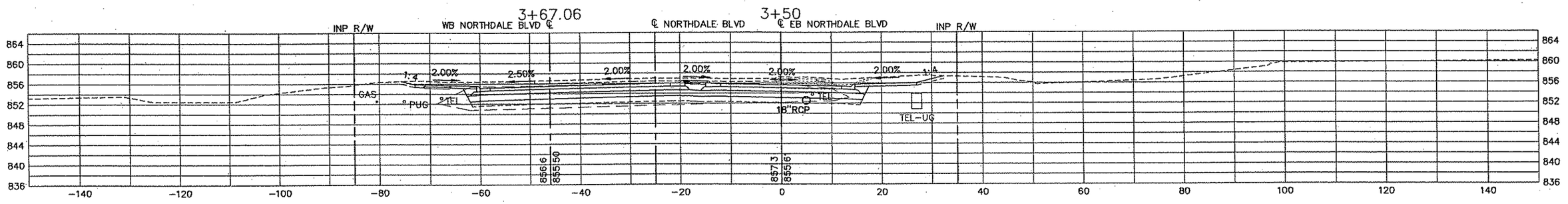
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

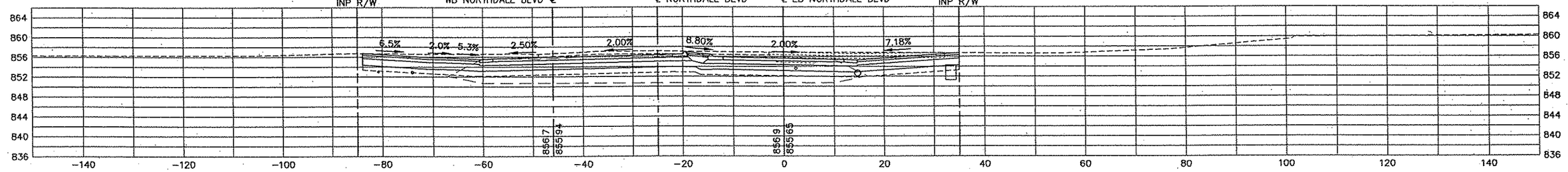
TH 10/HANSON BOULEVARD INTERCHANGE
NORTHDALE BOULEVARD (C.S.A.H. 11)
CROSS SECTIONS
STATION 0+50.00 TO STATION 2+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 670 / 681

PLOT DATE: Jan 07 10:37am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-01.dwg





REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSND-02
DATE: JANUARY 8, 2007

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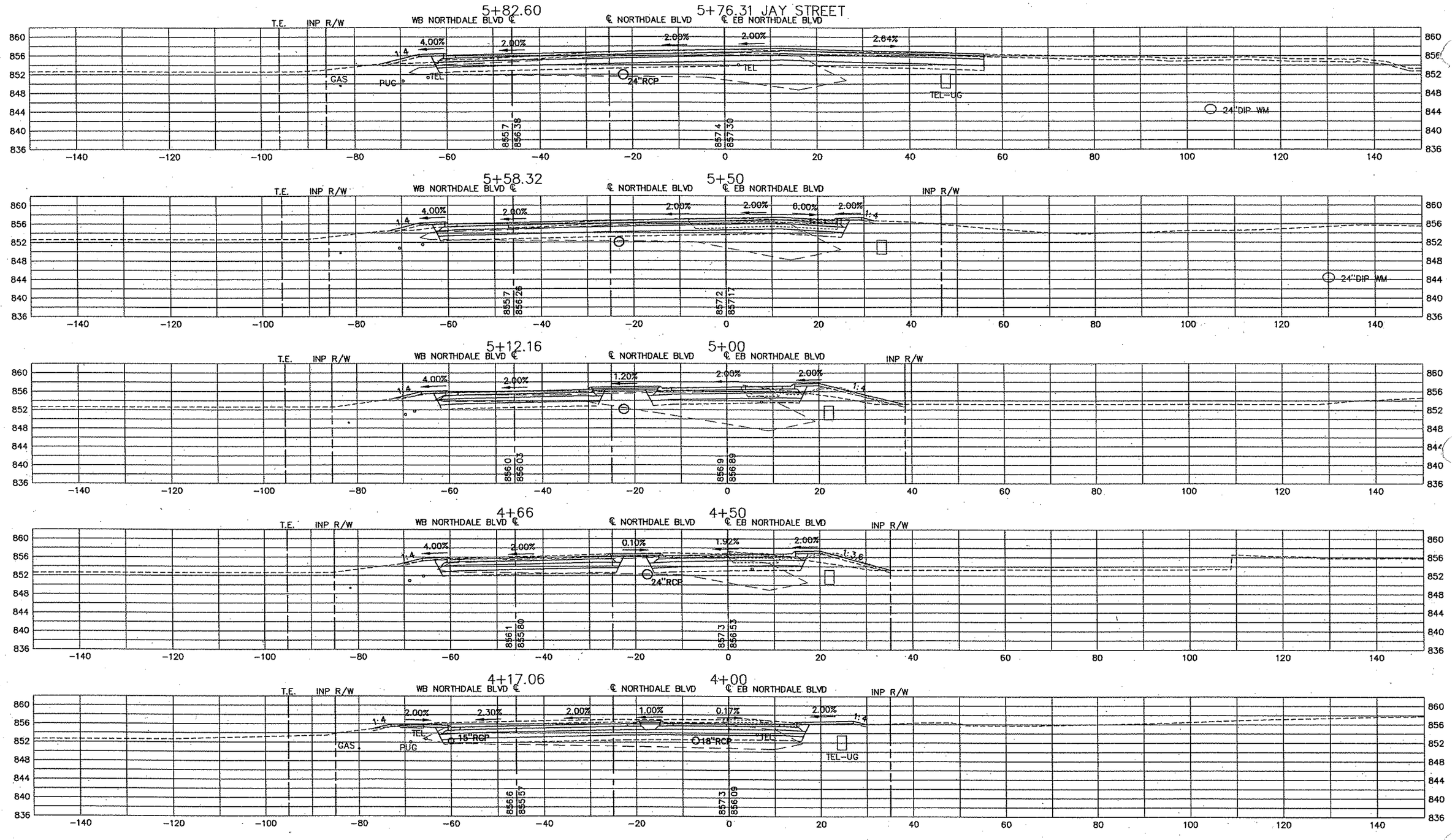
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
NORTHDALE BOULEVARD (C.S.A.H. 11)
CROSS SECTIONS
STATION 2+49.54 TO STATION 3+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 671 / 681

PLOT DATE: Jan .07 10:37am DISK FILE NAME: (16:1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-02.dwg



3 OF

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSND-03
DATE: JANUARY 8, 2007

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

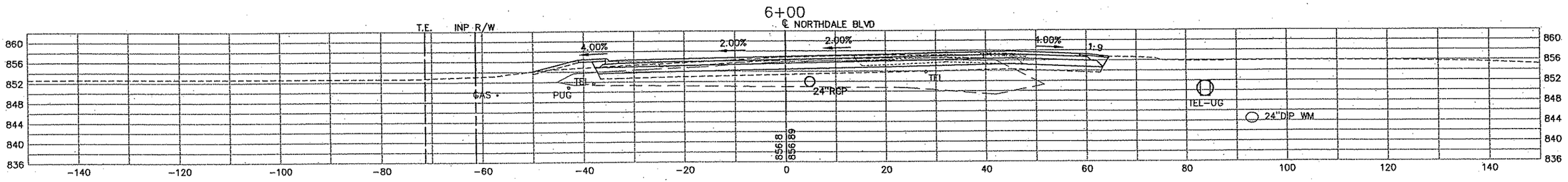
NORTHDALE BOULEVARD (C.S.A.H. 11)

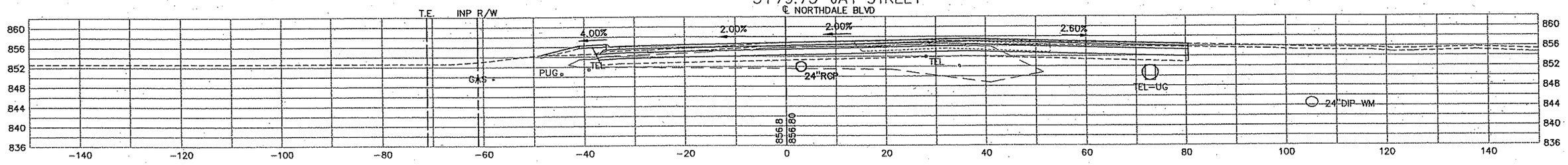
CROSS SECTIONS
STATION 4+00.00 TO STATION 5+76.31

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 672 / 681

PLOT DATE: Jan 07 10:37am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04[illegible]-03.dwg





REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSND-04
DATE: JANUARY 8, 2007

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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

NORTHDALE BOULEVARD (C.S.A.H. 11)

CROSS SECTIONS
STATION 5+79.73 TO STATION 6+00.00

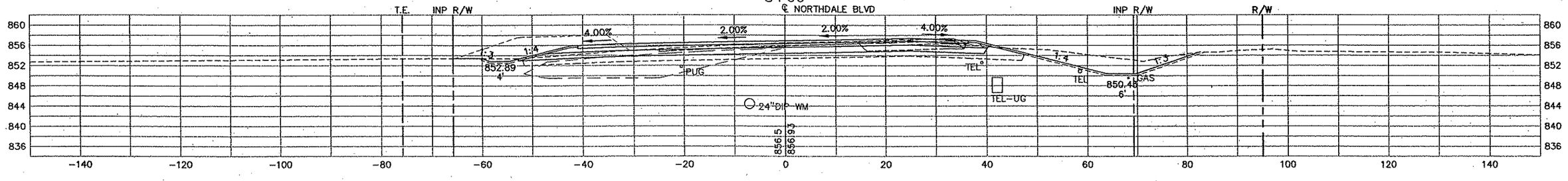
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 673 / 681

PLOT DATE: Jan .07 10:37am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-04.dwg

-nndale
c34bdr

8+00



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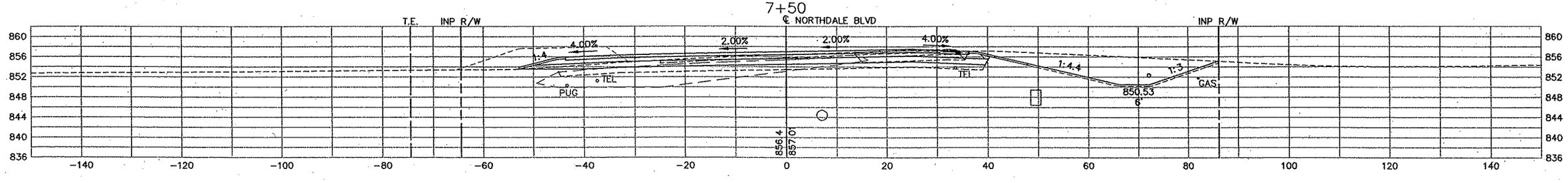

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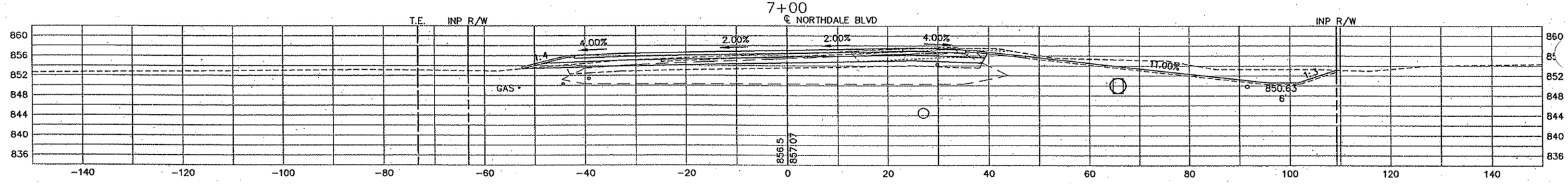

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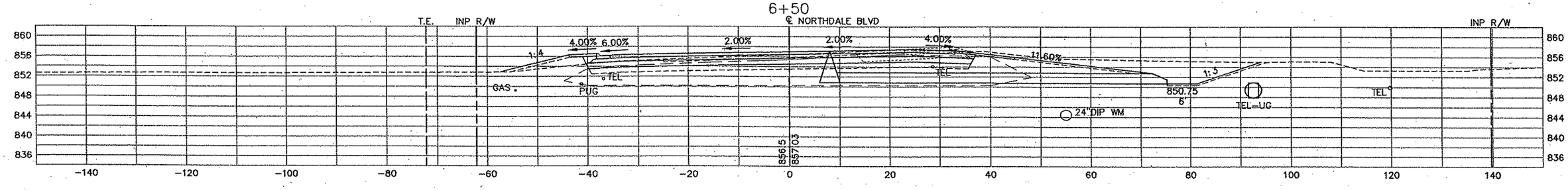

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSND-05
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

NORTHDALE BOULEVARD (C.S.A.H. 11)

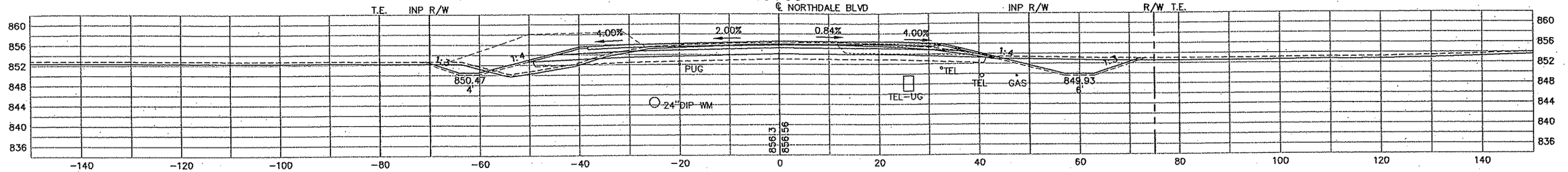
CROSS SECTIONS
STATION 6+50.00 TO STATION 8+00.00

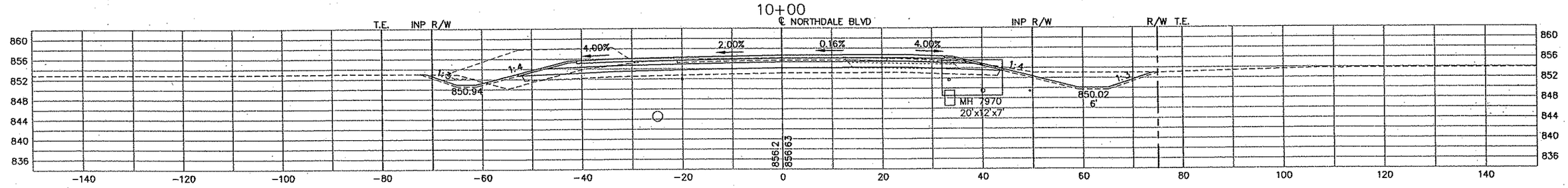
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

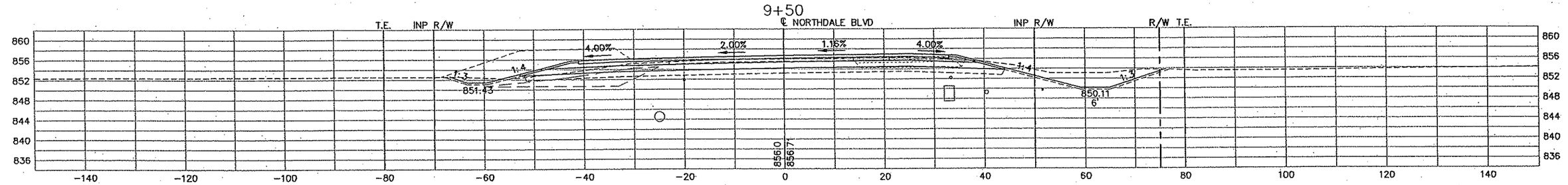
SHEET NO. 674

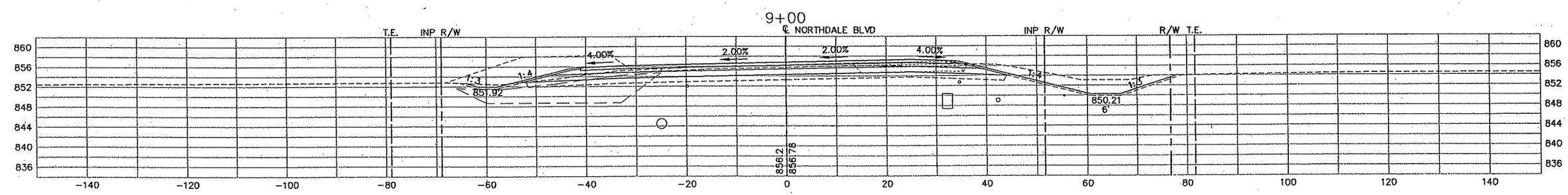
5 OF 681

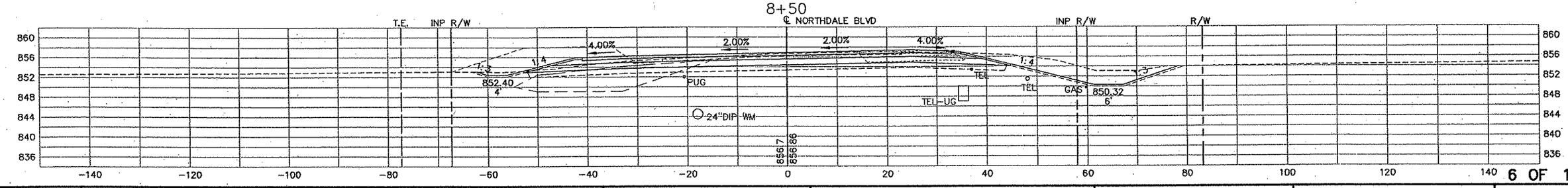
PLOT DATE: Jan .07 10:37am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-05.dwg











REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSND-06
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

NORTHDALE BOULEVARD (C.S.A.H. 11)

CROSS SECTIONS
STATION 8+50.00 TO STATION 10+50.00

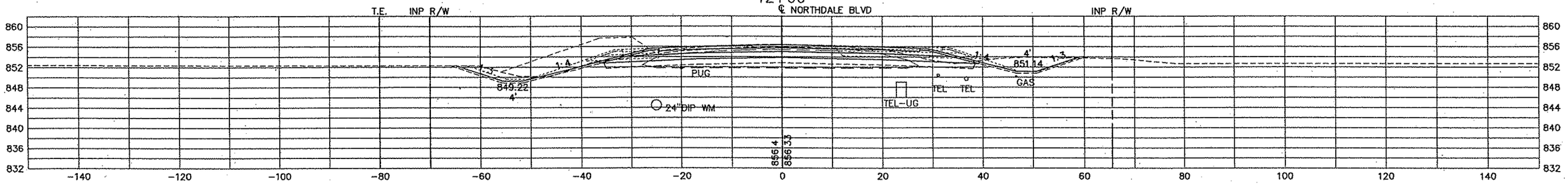
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 675 / 681

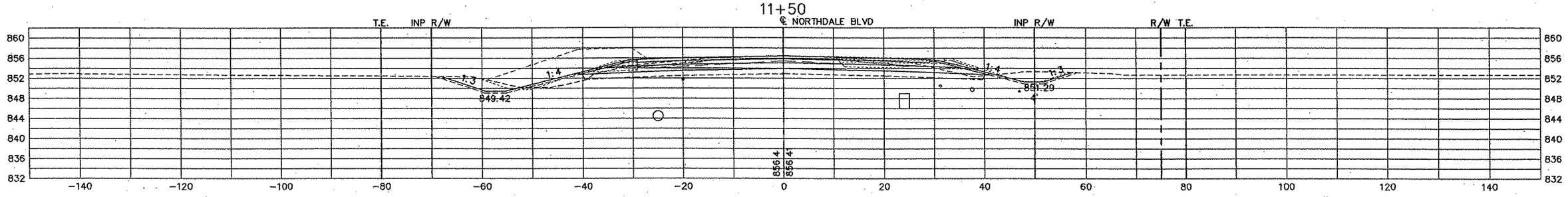
PLOT DATE: Jan 07 10:37am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-06.dwg

nndale
34bdr

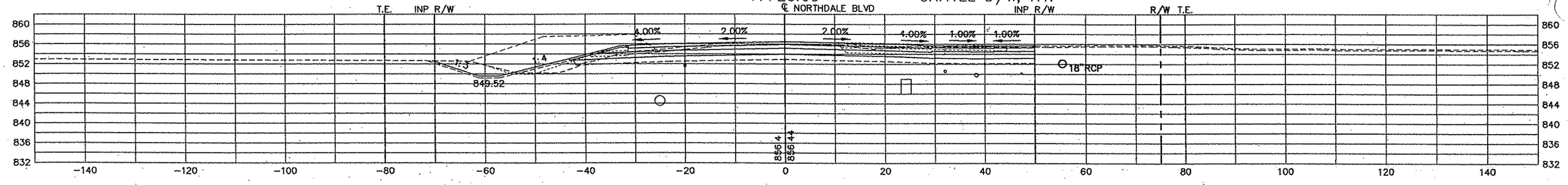
12+00



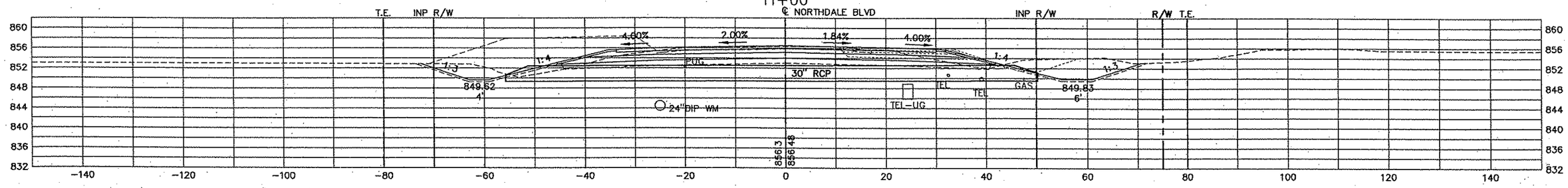
11+50



11+25.03 GRAVEL D/W, RT.



11+00



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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSND-07
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

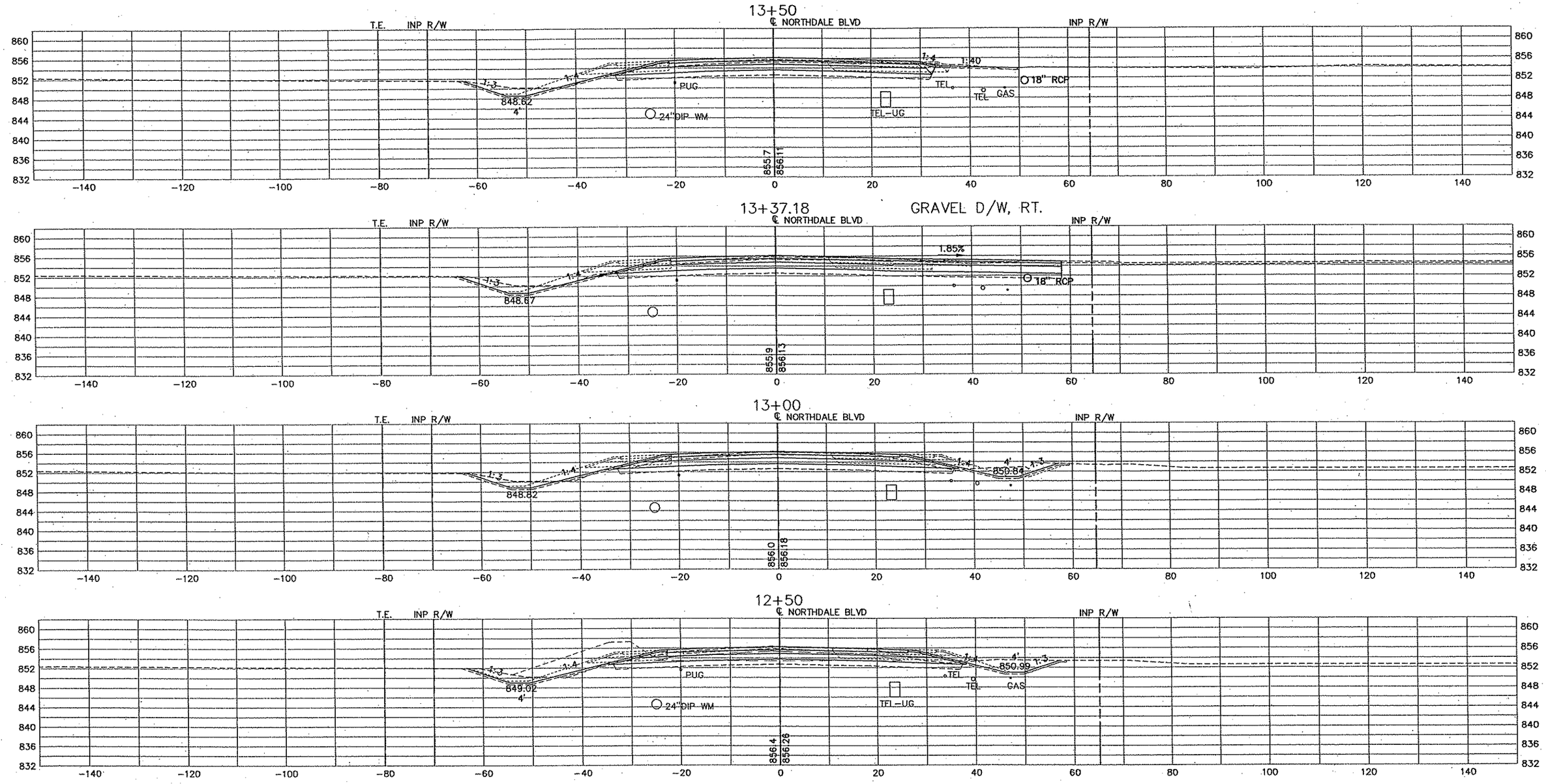
TH 10/HANSON BOULEVARD INTERCHANGE

NORTHDALE BOULEVARD (C.S.A.H. 11)

CROSS SECTIONS
STATION 11+00.00 TO STATION 12+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 676 / 681



8 OF 12

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSND-08
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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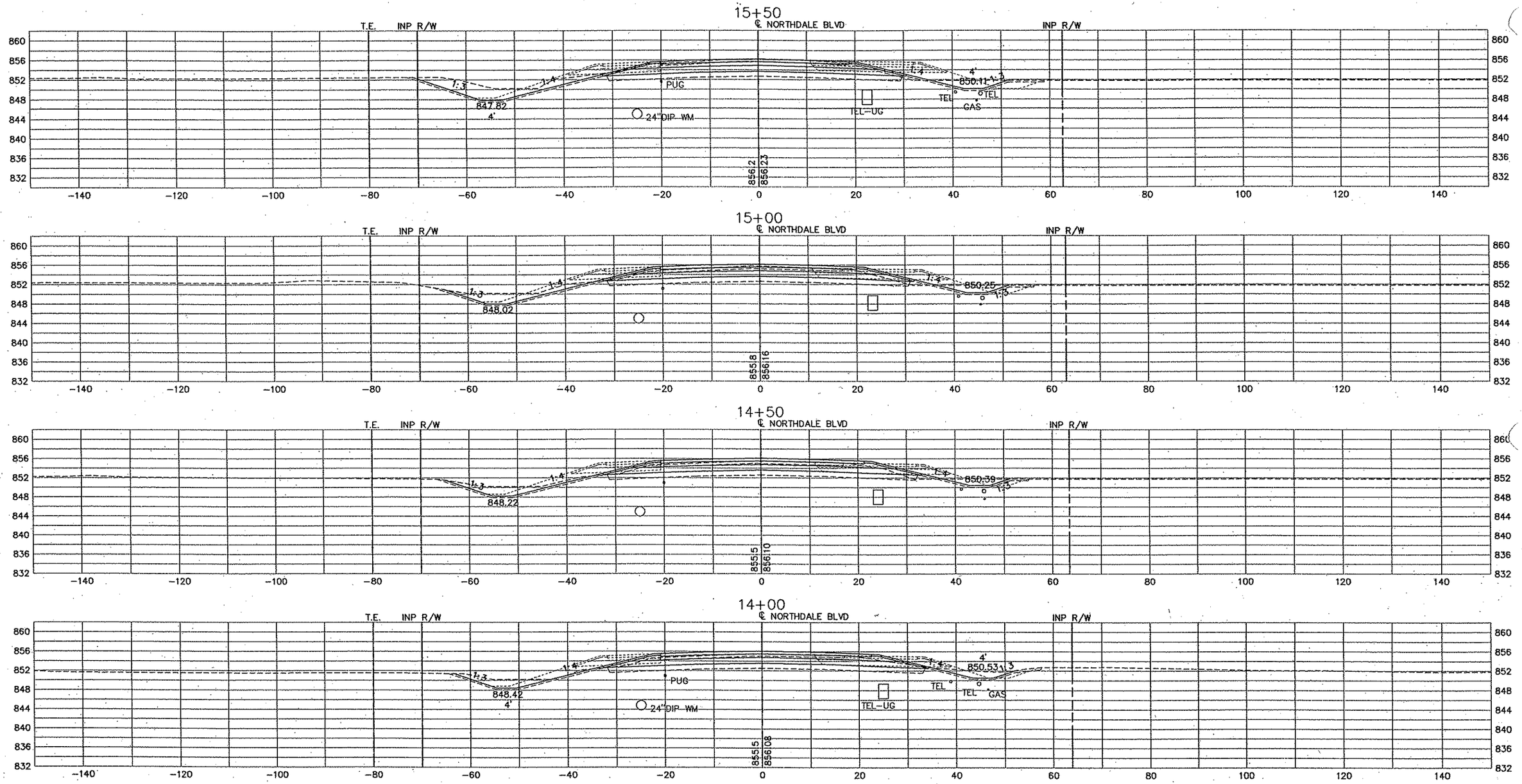
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE
NORTHDALE BOULEVARD (C.S.A.H. 11)
CROSS SECTIONS
STATION 12+50.00 TO STATION 13+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 677 / 681

PLOT DATE: Jan 07 10:37am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-08.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSND-09
DATE: JANUARY 8, 2007

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Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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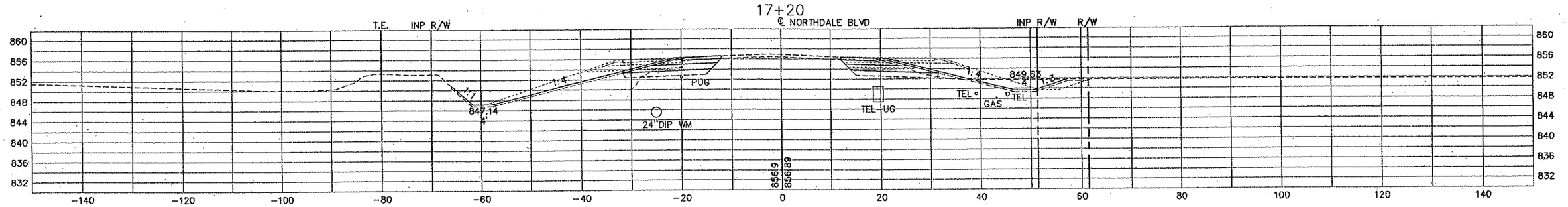
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

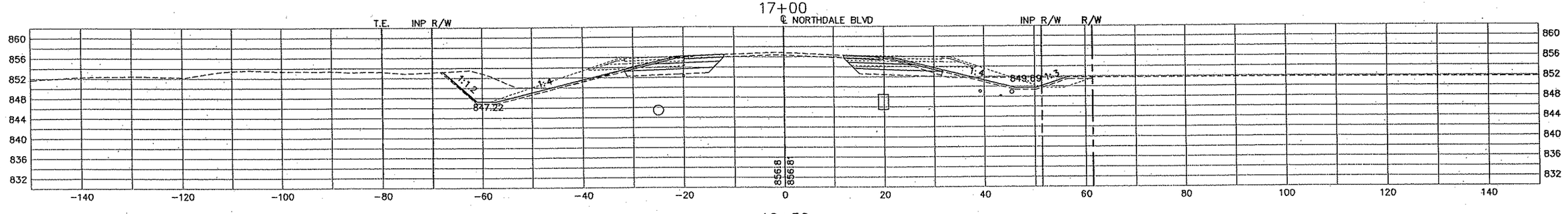
TH 10/HANSON BOULEVARD INTERCHANGE
NORTHDALE BOULEVARD (C.S.A.H. 11)
CROSS SECTIONS
STATION 14+00.00 TO STATION 15+50.00

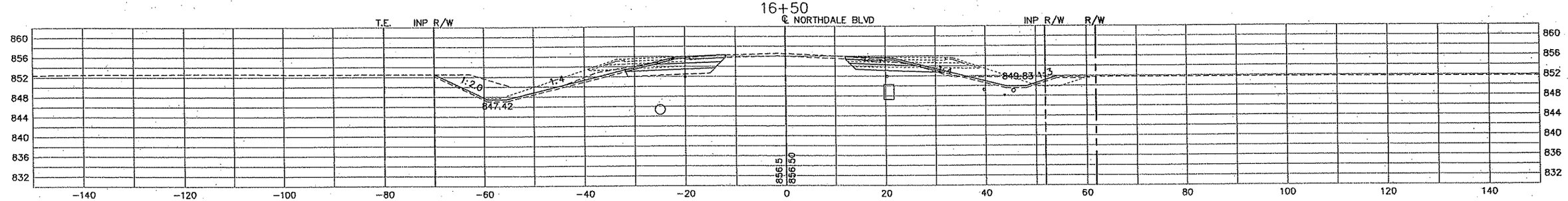
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

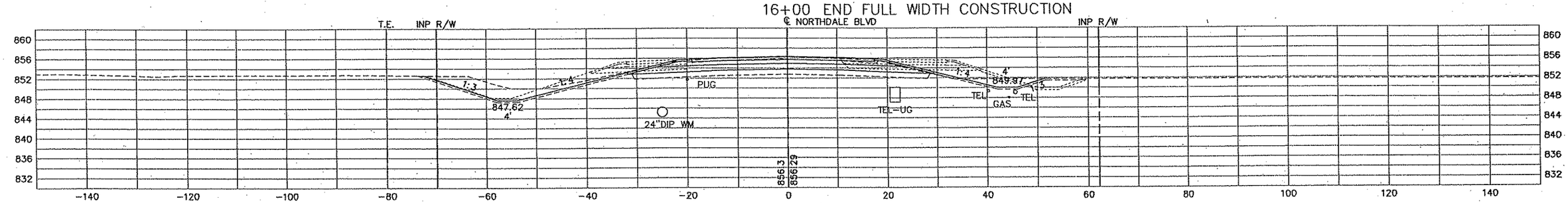
9 OF
SHEET NO. 678 / 681

PLOT DATE: Jan .07 10:37am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04 -09.dwg









REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ
DESIGN BY: PMJ
CHKED. BY: SAW
DWG. NAME: CSND-10
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KAREL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

NORTHDALE BOULEVARD (C.S.A.H. 11)

CROSS SECTIONS
STATION 16+00.00 TO STATION 17+20.00

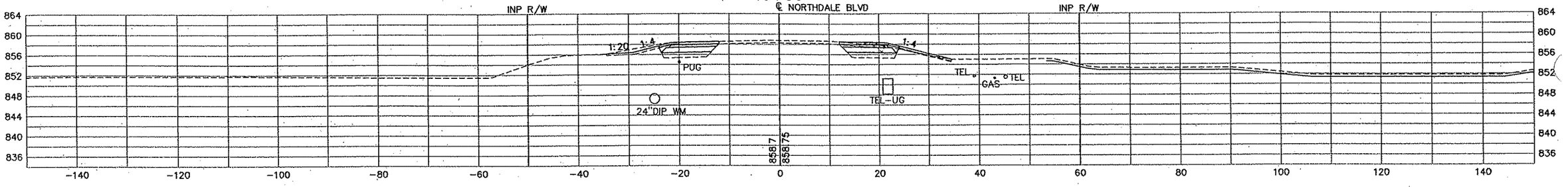
CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 679 / 681

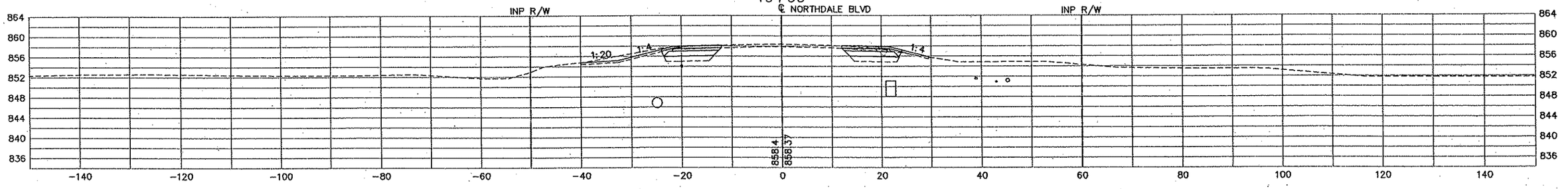
PLOT DATE: Jan .07 10:37am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-10.dwg

-nndale
c34bdr

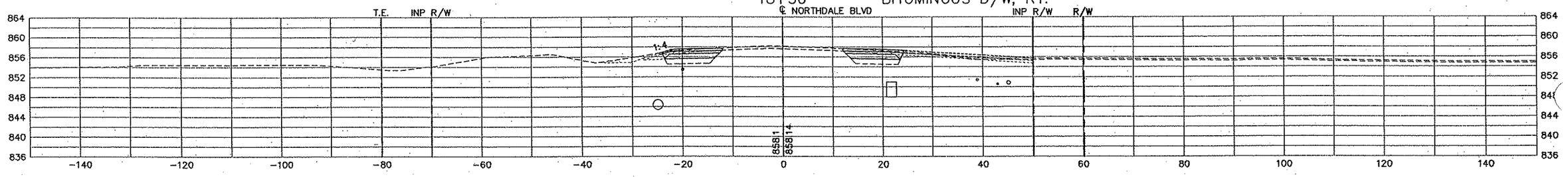
19+50



19+00



18+50 BITUMINOUS D/W, RT.



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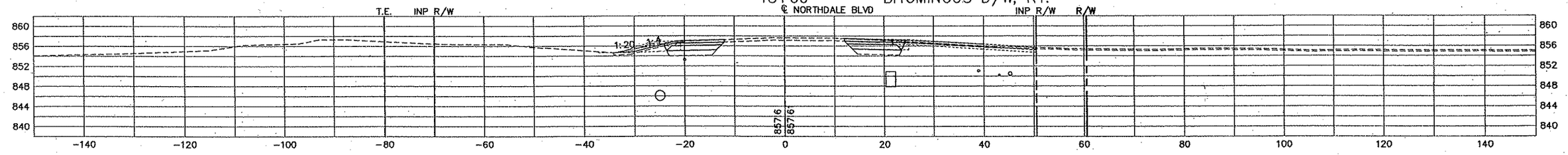
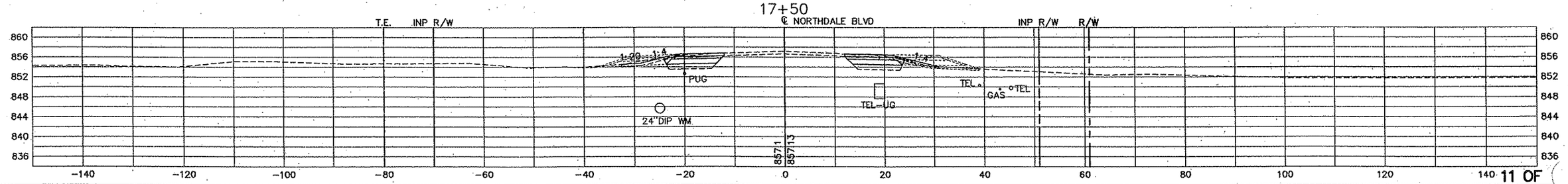


17+50



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: PMJ | DESIGN BY: PMJ
CHKED. BY: SAW | DWG. NAME: CSND-11
DATE: JANUARY 8, 2007

URS
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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

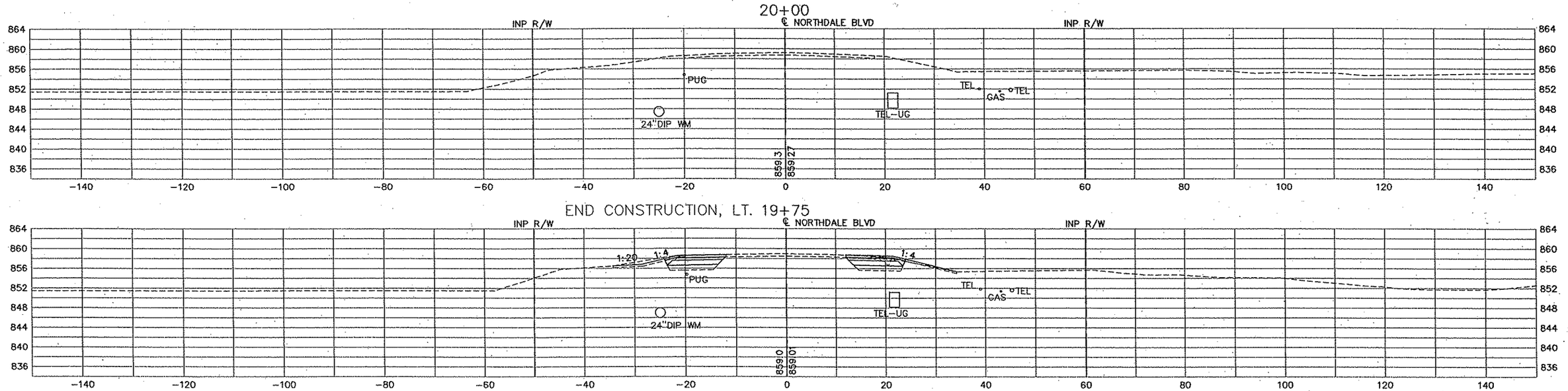
NORTHDALE BOULEVARD (C.S.A.H. 11)

CROSS SECTIONS
STATION 17+50.00 TO STATION 19+50.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 680 / 681

PLOT DATE: Jan .07 10:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\042-11.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	33889-042
DRAWN BY: PMJ	DESIGN BY: PMJ
CHKED. BY: SAW	DWG. NAME: CSND-12
DATE:	JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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KARL KEEL

DATE: 1/8/2007 MN LIC. NO. 19681

TH 10/HANSON BOULEVARD INTERCHANGE

NORTHDALE BOULEVARD (C.S.A.H. 11)

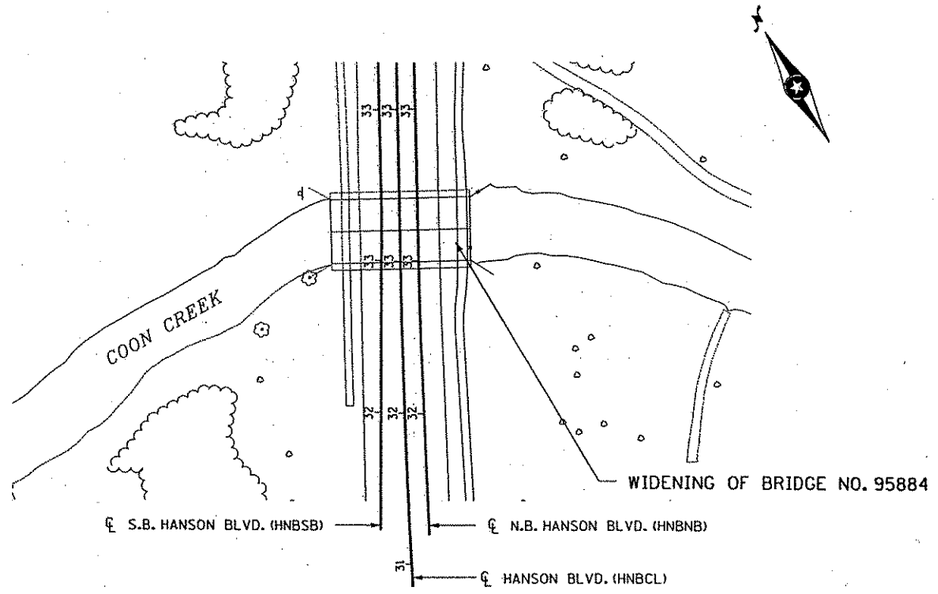
CROSS SECTIONS
STATION 19+75.00 TO STATION 20+00.00

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. 681 / 681

PLOT DATE: Jan 8, 2007 10:38am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\CROSS-SECTIONS\04-12.dwg

WIDENING OF BR. NO. 95884 – HANSON BLVD. OVER COON CREEK IN THE CITY OF COON RAPIDS



$216,627

① SEE SHEET B3 FOR STRUCTURE REMOVAL DETAILS

② PAY ITEMS AND QUANTITIES FOR THE COON CREEK BRIDGE WIDENING ARE SHOWN ON THIS SHEET FOR INFORMATION ONLY. PAY ITEMS AND QUANTITIES DEPICTED ON SHEET B1 ARE INCLUDED IN THE PROJECT SCHEDULE OF ESTIMATED QUANTITIES ON SHEETS 3-8.

NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE PRECAST CONCRETE WALL, PRECAST RETAINING WALL PANELS AND THE PRECAST REINFORCED CONCRETE ARCH, 40x10.

THE DESIGN AND INSTALLATION SHALL BE IN COMPLIANCE WITH MN/DOT TECHNICAL MEMORANDUM NO. 05-19-B-04, THE MN/DOT LRFD BRIDGE DESIGN MANUAL AND THE CURRENT EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE EXISTING BRIDGE PRIOR TO CONSTRUCTION.

FED. PROJ. NO.

DESIGN DATA

1996 (AND CURRENT INTERIM) A.A.S.H.T.O. DESIGN SPECIFICATIONS
LOAD FACTOR DESIGN METHOD
DESIGN LOADING HS25 LIVE LOAD

MAXIMUM ALLOWABLE DESIGN STRESSES:
REINFORCED CONCRETE:
f'c = 4000 PSI N=8
Fy = 60000 PSI (REINFORCEMENT)

DESIGN SPEED OVER = 40 M.P.H.
DESIGN SPEED UNDER = N/A

PROJECTED ADT FOR YEAR 2022 = 46900

SHEET INDEX

NO.	TITLE
B1	TITLE SHEET
B2	GENERAL ELEVATION & TYP. DECK SECTION
B3	REMOVAL & RECONSTRUCTION DETAILS
B4	FOOTING DETAILS
B5	MISC. DETAILS & CONSTRUCTION NOTES
B6	5' WIRE FENCE (DESIGN W-1)
B7	BRIDGE SURVEY
B8	BRIDGE SURVEY - PLAN & PROFILE

CONSTRUCTION NOTES

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR SIZE, WHICH APPROXIMATES THE DIAMETER OF THE BAR IN MILLIMETERS (mm).

BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

WHILE THE UTILITIES SHOWN IN THIS PLAN ARE INTENDED TO BE COMPLETE AND CORRECT, PLEASE REFER TO THE FINAL GRADING PLAN UTILITIES AND TABULATION SHEETS FOR ADDITIONAL UTILITY INFORMATION.

SCHEDULE OF QUANTITIES FOR WIDENING OF BRIDGE NO. 95884 (2)

ITEM NO.	2401	2401	2401	2401	2401	2401	2411	2411	2433	2451	2451	2501	2511	2511	2557				
ITEM	STRUCTURAL CONCRETE (1A43)	STRUCTURAL CONCRETE (3Y43)	FOUNDATION PREPARATION	REINFORCEMENT BARS (EPOXY COATED)	REINFORCEMENT BARS	STRUCTURE EXCAVATION	PRECAST CONCRETE WALL	PRECAST RETAINING WALL	STRUCTURE REMOVALS (1)	GRANULAR BACKFILL (MOD) CV	GRANULAR BEDDING (CV)	PRECAST REINFORCED CONCRETE ARCH 40'x10'	RANDOM RIPRAP CLASS IV	GRANULAR FILTER	WIRE FENCE DESIGN W-1				
UNIT	CU. YD.	CU. YD.	LUMP SUM	POUND	POUND	LUMP SUM	SQ. YD.	SQ. YD.	LUMP SUM	CU. YD.	CU. YD.	LIN. FT.	CU. YD.	CU. YD.	LIN. FT.				
QUANTITY	43 (P)	7 (P)	1	790 (P)	3280 (P)	1	30	50	1	30	153	12	45	15	78				

JOB NO. **STATE PROJECT NO. 02-611-29**

URS
Thresher Square
700 South Third Street
Minneapolis, MN 55415

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SIGNED: Mark Maves
PRINTED NAME: MARK MAVES
DATE: JANUARY 8, 2007 REG. NO.: 20496

MINNESOTA DEPARTMENT OF TRANSPORTATION

WIDENING OF BRIDGE NO. 95884
TITLE SHEET

HANSON BOULEVARD OVER COON CREEK IN THE CITY OF COON RAPIDS

WIDEN EXISTING PRECAST REINFORCED CONCRETE ARCH STRUCTURE

SPAN IDENTIFICATION NO. 112

SEC 15 T 31 N R 24 W

CITY OF COON RAPIDS ANOKA CO.

DATED 1/9/07
APPROVED Kevin Western FOR STATE BRIDGE ENGINEER

DES:	DM	DRW:	DM	95884
CHK:	MKM	CHK:	LHC	

SHEET NO. B1 OF B8 SHEETS

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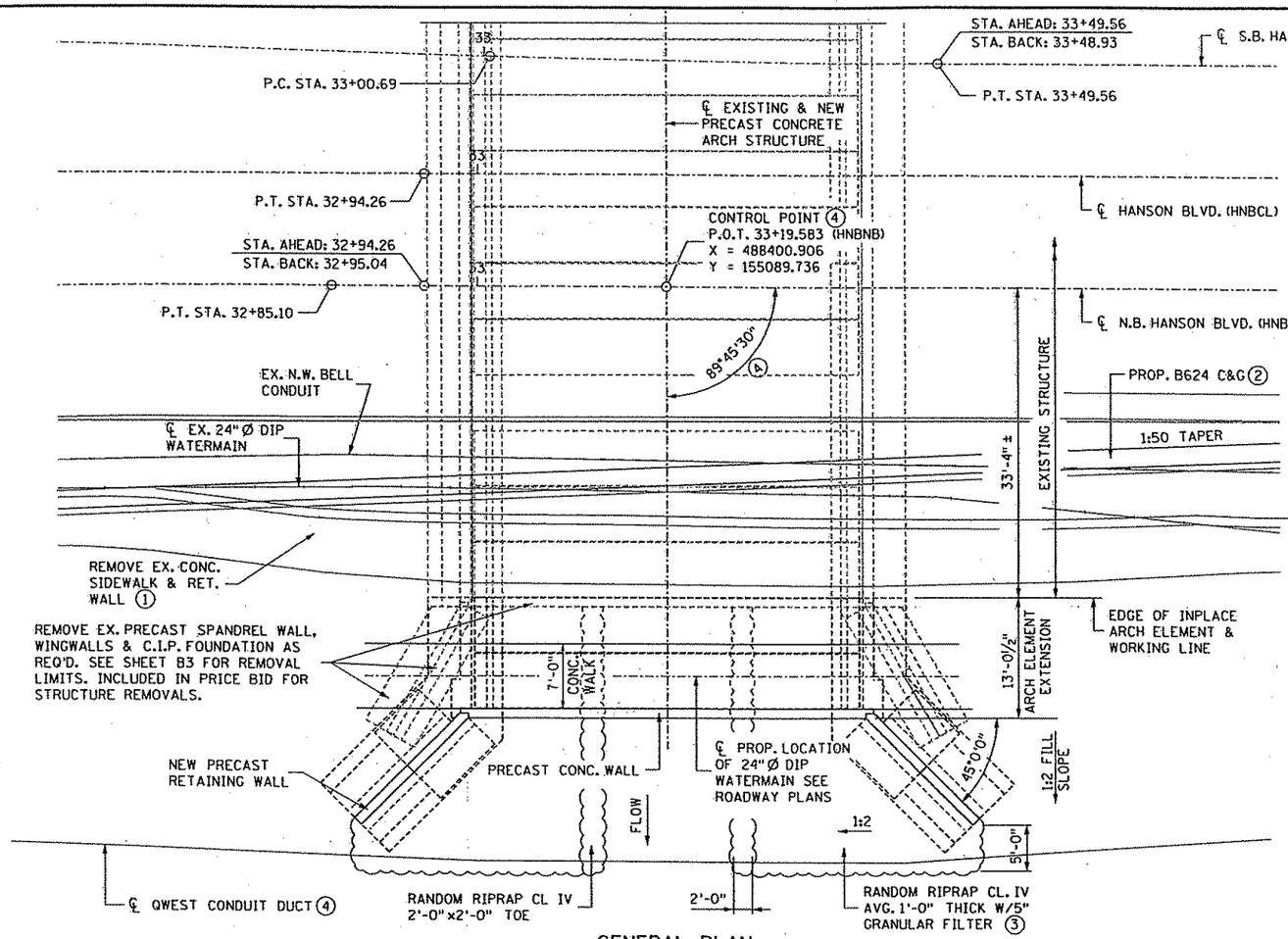
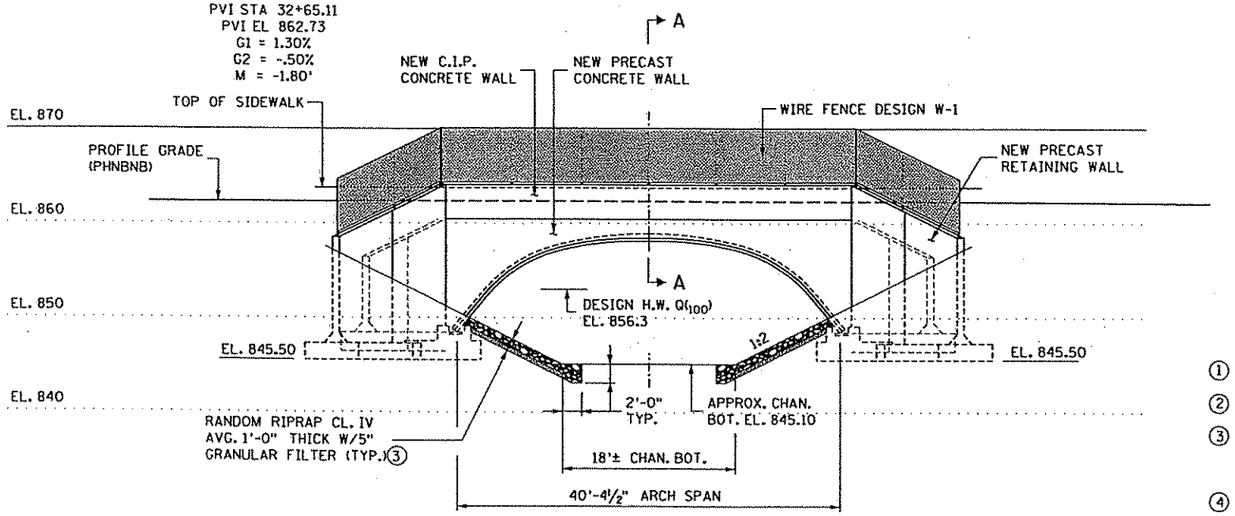
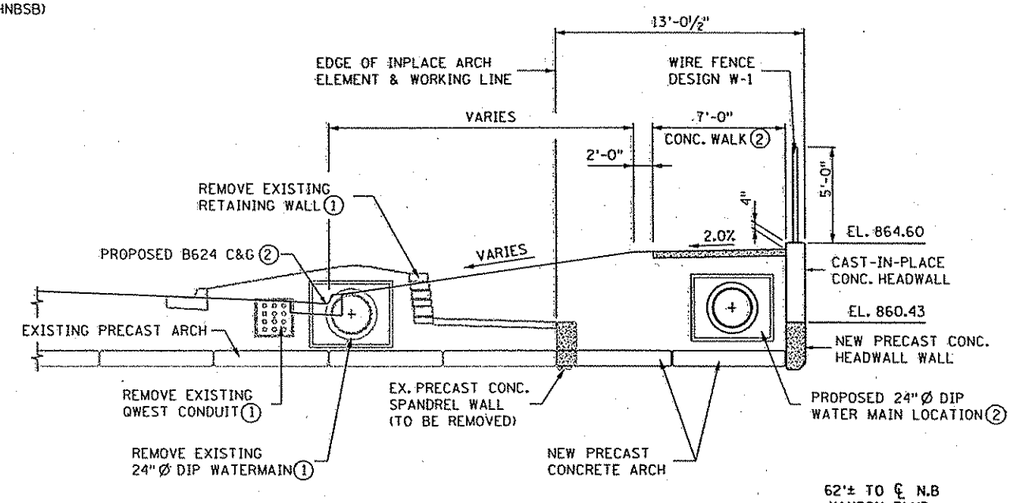
1/8/2007 7:57:04 AM



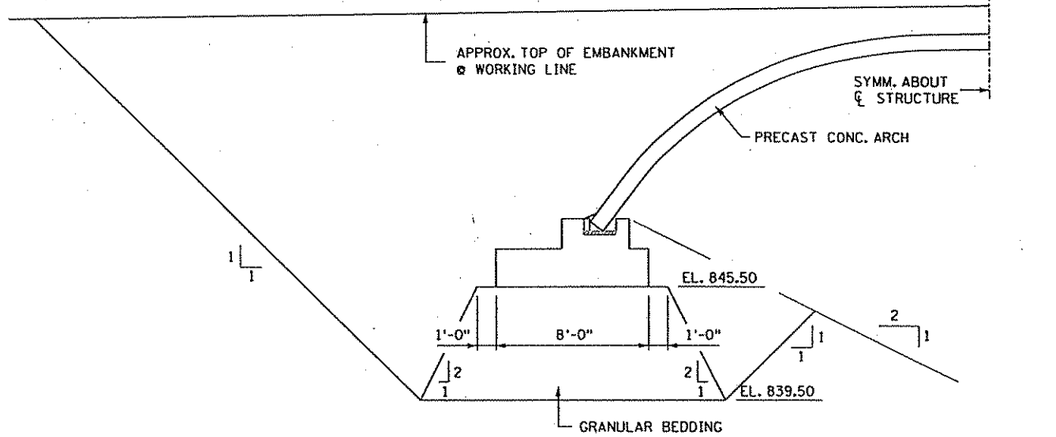
GENERAL PLAN



ELEVATION



SECTION A-A



STRUCTURE EXCAVATION DETAILS

1. REMOVALS BY OTHERS, SEE ROADWAY PLANS
2. BY OTHERS, SEE ROADWAY PLANS
3. LIMITS OF RANDOM RIPRAP AS SHOWN ARE APPROXIMATE ONLY. EXACT LIMITS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
4. CONTRACTOR SHALL FIELD VERIFY

S.P. 02-611-29

URS
Thresher Square
700 South Third Street
Minneapolis, MN 55415

SIGNATURE
PRINTED NAME: MARK MAVES
DATE: JANUARY 8, 2007 REG. NO. 20496

TITLE: GENERAL PLAN, ELEVATION & SECTIONS

DES: LHC	DR: DM	APPROVED:
CHK: MKM	CHK: LHC	

SHEET NO. B2 OF B8 SHEETS

BRIDGE NO. 95884

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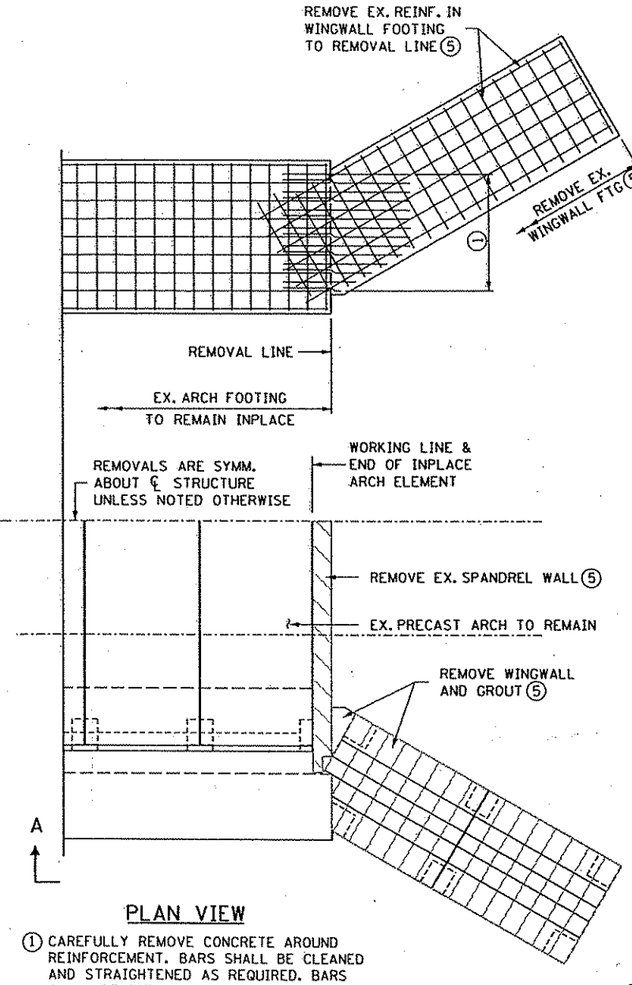
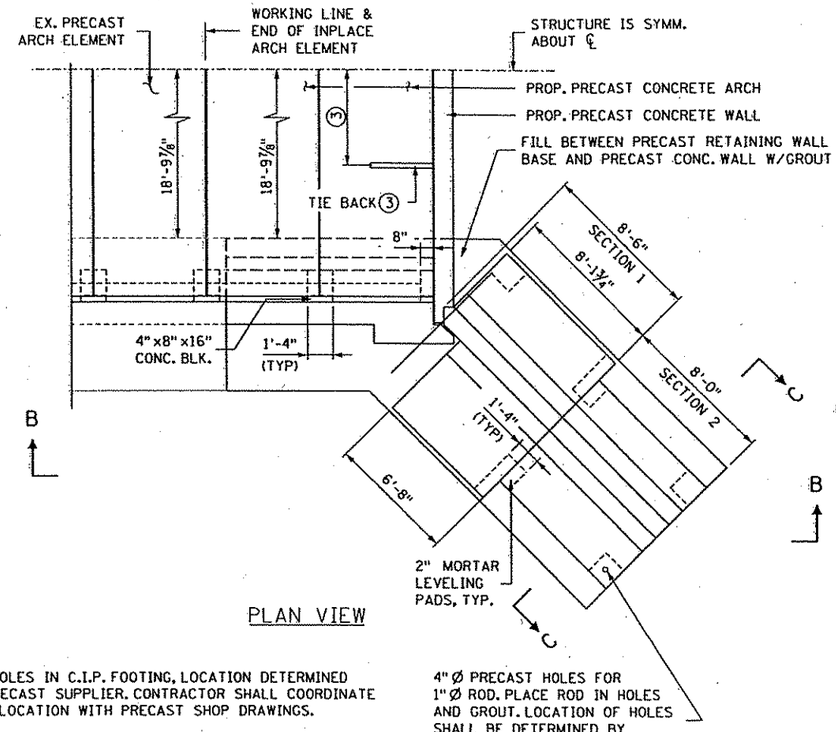
1/8/2007



PLAN VIEW

(1) CAREFULLY REMOVE CONCRETE AROUND REINFORCEMENT. BARS SHALL BE CLEANED AND STRAIGHTENED AS REQUIRED. BARS SHALL BE TIED INTO NEW FOOTING.



PLAN VIEW

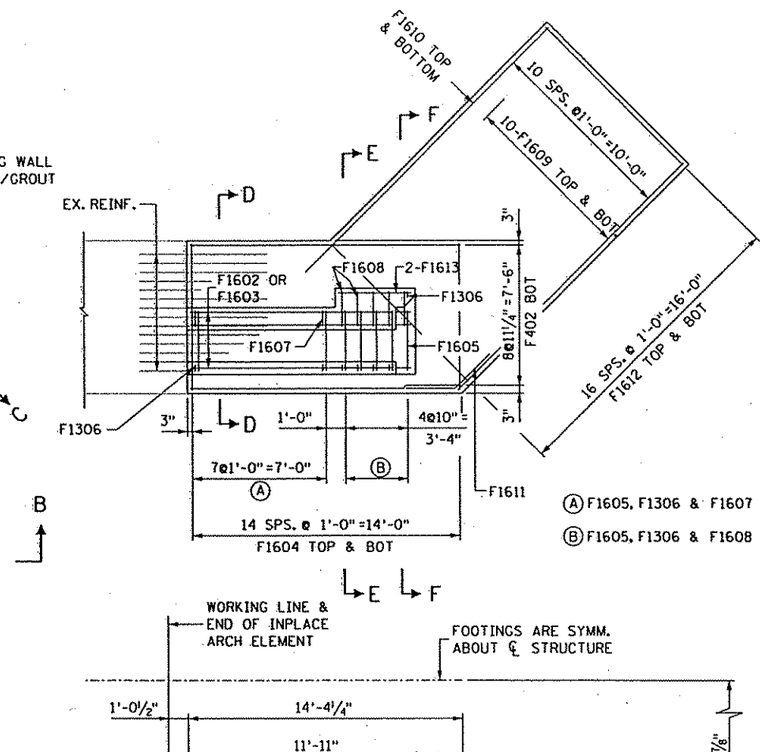
(2) 6" Ø HOLES IN C.I.P. FOOTING, LOCATION DETERMINED BY PRECAST SUPPLIER. CONTRACTOR SHALL COORDINATE HOLE LOCATION WITH PRECAST SHOP DRAWINGS.

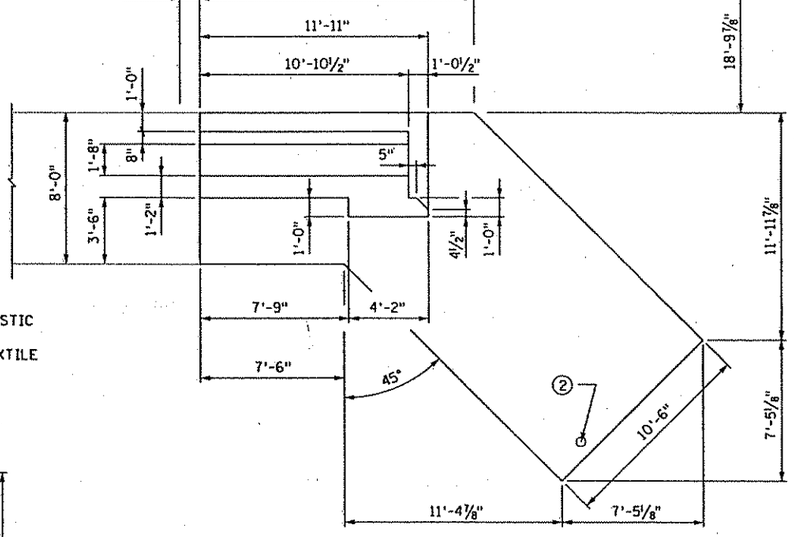
(3) TIEBACK LOCATION AND QUANTITY TO BE DETERMINED BY PRECAST SUPPLIER.

(4) U-TIES LOCATION AND QUANTITY TO BE DETERMINED BY PRECAST SUPPLIER.

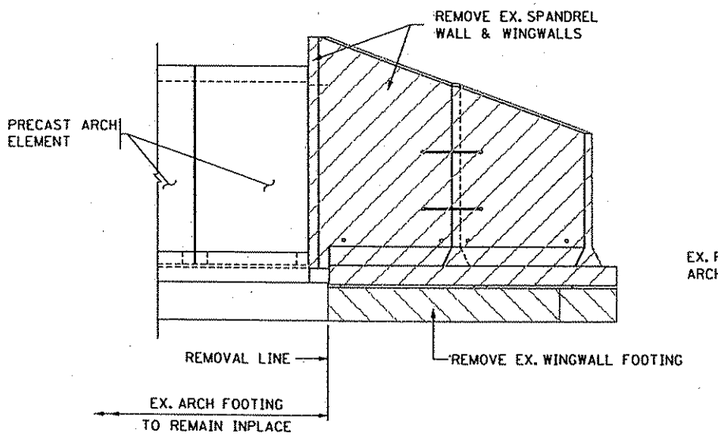
(5) INCLUDED IN PRICE BID 2433 STRUCTURE REMOVALS.

4" Ø PRECAST HOLES FOR 1" Ø ROD. PLACE ROD IN HOLES AND GROUT. LOCATION OF HOLES SHALL BE DETERMINED BY PRECAST SUPPLIER. 1" Ø RODS SUPPLIED BY PRECASTER.

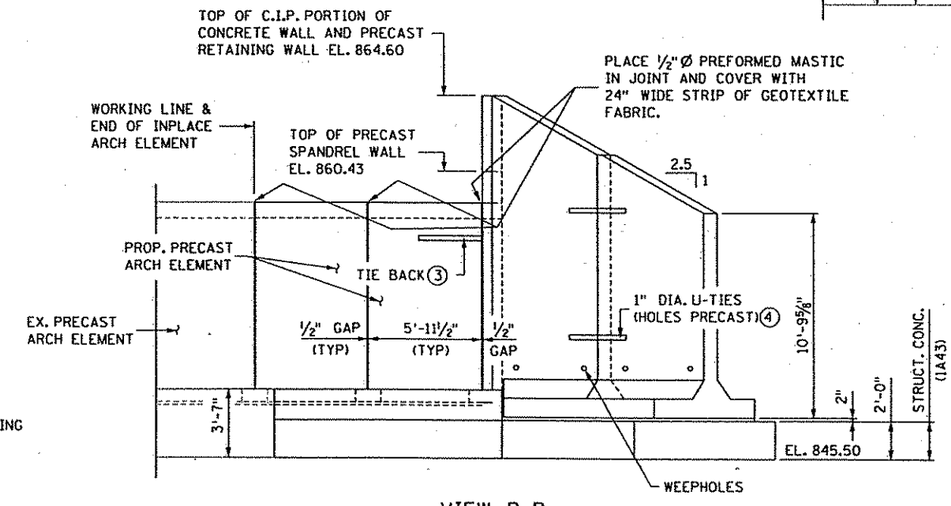




FOOTING PLAN



VIEW A-A



VIEW B-B

NOTE:

SEE SHEET B3 FOR VIEW C-C, SECTIONS D-D, E-E & F-F.

S.P. 02-611-29

URS Thresher Square 700 South Third Street Minneapolis, MN 55415

SIGNATURE: Mark Maves
PRINTED NAME: MARK MAVES
DATE: JANUARY 8, 2007 REG. NO. 20496

TITLE: REMOVAL AND RECONSTRUCTION DETAILS

DES: DM	DR: DM	APPROVED:
CHK: MKM	CHK: LHC	

SHEET NO. B3 OF B8 SHEETS

BRIDGE NO. 95884

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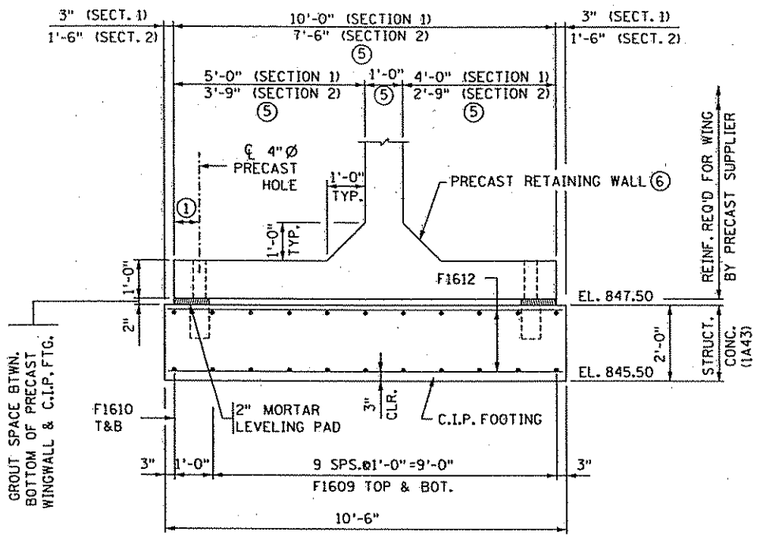
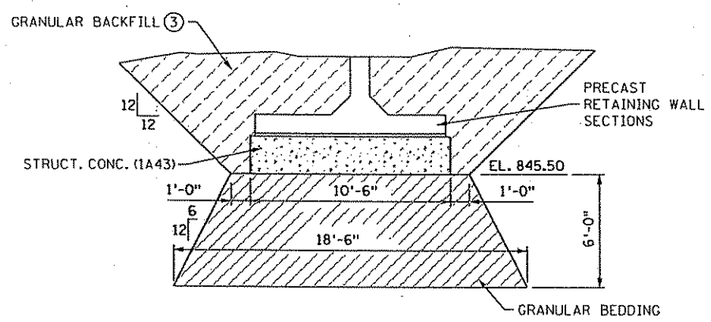
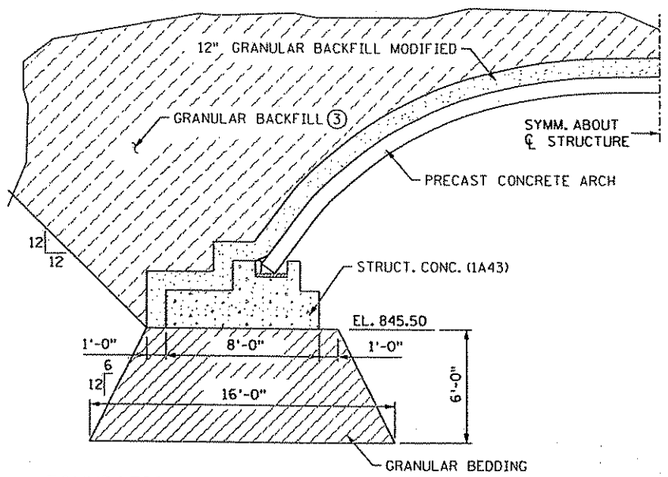


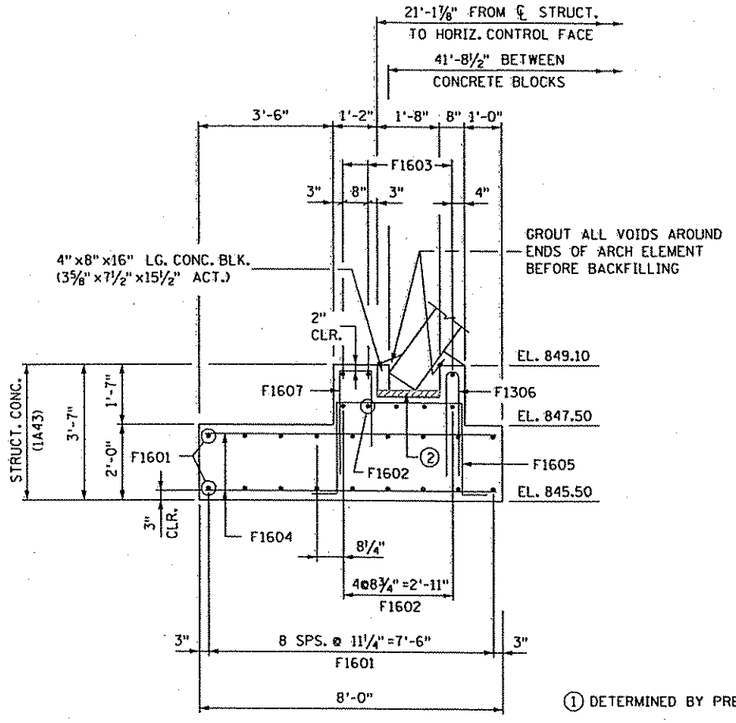
SECTION C-C



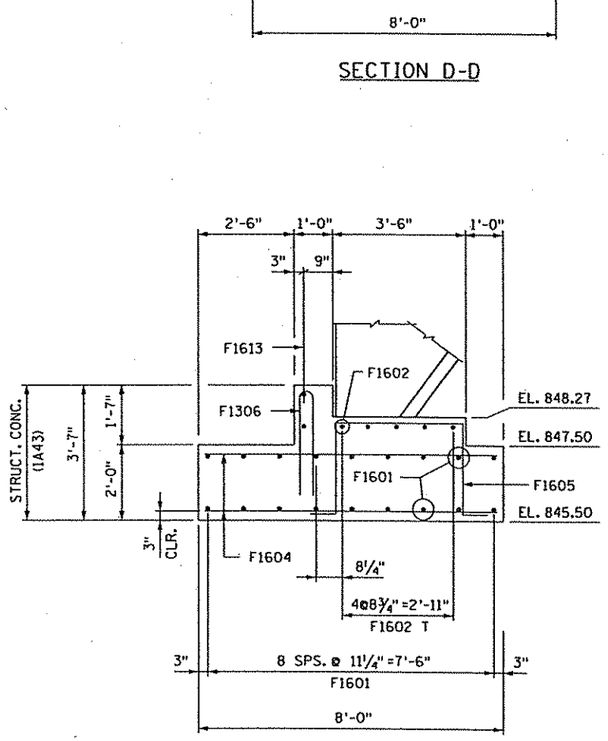
FOUNDATION AND BACKFILL DETAILS



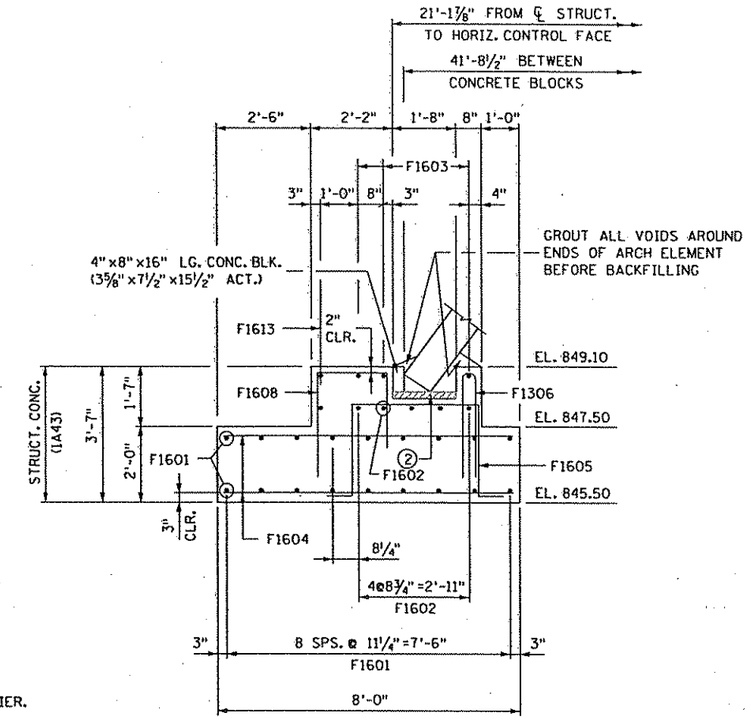
FOUNDATION AND BACKFILL DETAILS



SECTION D-D



SECTION F-F



SECTION E-E

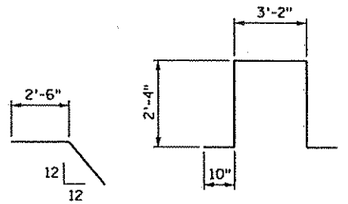
① DETERMINED BY PRECAST SUPPLIER.

② 2" MORTAR LEVELING PAD TOP OF PAD EL. 848.44

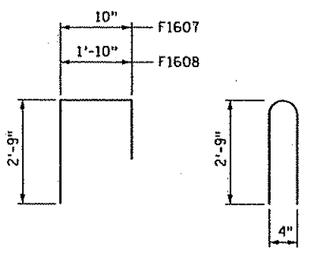
③ INCLUDED IN ROADWAY PORTION OF CONTRACT

⑤ VERIFY DIMENSIONS WITH PRECAST SUPPLIER. WIDEN C.I.P. FOOTING AS REQUIRED.

⑥ REINFORCEMENT AS REQUIRED BY PRECAST SUPPLIER DESIGN.



F1611 F1605



F1607 & F1608 F1608

BILL OF REINFORCEMENT ARCH FOOTINGS

BAR	NO.	LENGTH	SHAPE	LOCATION
F1601	36	14'-2"	———	ELEMENT FOOTING - LONG.
F1602	10	11'-6"	———	ELEMENT FOOTING - LONG.
F1603	6	10'-6"	———	ELEMENT FOOTING - LONG.
F1604	60	7'-6"	———	ELEMENT FOOTING - TRANSV.
F1605	26	9'-6"	⎍	ELEMENT FOOTING - TIE
F1306	28	5'-0"	∩	ELEMENT FOOTING - TIE
F1607	16	5'-7"	⊓	ELEMENT FOOTING - TIE
F1608	10	6'-7"	⊓	ELEMENT FOOTING - TIE
F1609	40	16'-8"	———	WINGWALL FOOTING
F1610	4	18'-1"	———	WINGWALL FOOTING
F1611	4	5'-0"	⟋	WINGWALL FOOTING
F1612	68	10'-2"	———	WINGWALL FOOTING
F1613	4	3'-9"	———	ELEMENT FOOTING - LONG.

SUMMARY OF QUANTITIES - ARCH FOOTINGS

	ITEM	UNIT	QTY.
	STRUCTURAL CONCRETE (1A43)	CU. YD.	43
	REINFORCEMENT BARS	POUND	3280
	GRANULAR BEDDING	CU. YD.	153
	GRANULAR BACKFILL MODIFIED	CU. YD.	30
④	STRUCTURE EXCAVATION	L. SUM	1

④ APPROXIMATE QUANTITY 387 CU. YDS FOR INFORMATIONAL PURPOSES ONLY.

S.P. 02-611-29

URS
Thresher Square
700 South Third Street
Minneapolis, MN 55415

SIGNATURE
PRINTED NAME: MARK MAVES
DATE: JANUARY 8, 2007 REG. NO. 20496

TITLE: FOOTING DETAILS

DES: DM DR: DM APPROVED:
CHK: MKM CHK: LHC

SHEET NO. B4 OF B8 SHEETS

BRIDGE NO. 95884

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CONSTRUCTION NOTES

ALL STRUCTURAL STEEL TO BE 3306 & GALVANIZED AFTER FABRICATION AS PER SPEC. 3394.

BOLTS, NUTS & WASHERS TO BE GALVANIZED PER SPEC. 3392.

PROVISIONS FOR MOVING THE ARCH ELEMENT SECTIONS, PRECAST CONC. WALL & WINGWALLS WILL BE THE CONTRACTORS RESPONSILBILTY.

PLACE ½"Ø PREFORMED MASTIC IN JOINTS EXCEPT AT SPANDREL WALL BRACKETS, COVER WITH 24" WIDE GEOTEXTILE FABRIC AT ALL ARCH JOINTS. PLACE GEOTEXTILE FABRIC JUST PRIOR TO BACKFILLING. SEE SPEC. 2501.3C3.

LAYING LENGTHS FOR CONCRETE ARCH ELEMENTS SHALL BE 6'-0" WHICH INCLUDES ½" GAP BETWEEN ARCH SECTIONS.

TO AVOID EXCESSIVE VIBRATION IN ARCH, THE FOLLOWING PRACTICE MUST BE FOLLOWED DURING COMPACTION OPERATIONS:

1) ECCENTRIC ROTATING WEIGHTS OF VIBRATING ROLLERS SHALL ROTATE AT LEAST 20 REVOLUTIONS PER SECOND.

2) VIBRATING ROLLERS SHALL NOT BE STARTED OR STOPPED WITHIN 6 FEET OF THE STRUCTURE.

EXCAVATE AND STOCKPILE SUITABLE TOP SOILS AND ALL OTHER ORGANIC SOILS ENCOUNTERED BELO PROPOSED EMBANKMENT WIDENINGS PER MNDOT SPEC. 2105.2C, FOR FUTURE USE AS SLOPE DRESSING.

NO FILL SHALL BE DUMPED WITHIN 3 FEET OF PRECAST ELEMENTS.

CONSTRUCTION EQUIPMENT HEAVIER THAN 30 TONS TOTAL WEIGHT ARE NOT TO BE ALLOWED TO CROSS OVER OR BE OPERATED ADJACENT TO PRECAST ELEMENTS UNTIL A MINIMUM OF ONE FOOT OF COVER HAS BEEN PLACED AND COMPACTED.

DEWATER AS NECESSARY BELOW BOTTOM OF FOOTINGS SO EXCAVATING, BACKFILL, COMPACTION AND CONCRETE WORK IS COMPLETED BELOW WATERLINE.

CHANNEL EXCAVATION WILL BE CONSIDERED INCIDENTAL.

ALL GRANULAR BEDDING UNDER FOOTINGS SHALL MEET OR EXCEED MNDOT SPEC. 3149.2F GRANULAR BEDDING. PLACEMENT OF THIS GRANULAR BEDDING SHALL FOLLOW MNDOT SPEC. 2451.3D AND COMPACTION SHALL BE NO LESS THAN 100% MAXIMUM DENSITY AS PER MNDOT SPEC. 2105.3F1. STRUCTURAL EXCAVATION, CLASS E, SHALL EXTEND UNDER ARCH AND CONCRETE HEADWALL ONLY.

ALL GRANULAR BACKFILL ON BOTH SIDES OF THE CURVED ELEMENT FROM THE OUTER EDGE OF THE FOOTING ON A 45° SLOPE TO THE TOP OF THE CURVED ELEMENT SHALL BE COMPACETED TO NOT LESS THAN 95% MAXIMUM DENSITY PER MNDOT SPEC. 2105.3F1 (AASHTO T-99). GRANULARR BACKFILL SHALL MEET OR EXCEED MNDOT SPEC. 3149.2 FOR GRANULAR BACKFILL. ALL MATERIAL SHALL BE PLACED IN 8 INCH COMPACTED LIFTS UNLESS THE CONTRACTOR CAN SHOW HE CAN OBTAIN 95% DENSITY WITH GREATER LIFTS. MNDOT SPEC. 2451.3C AND 2451.3D SHALL APPLY. THE BACKFILL MATERIAL ON BOTH SIDES OF THE STRUCTURE IS TO BE PLACED SO THAT THE DIFFERENCE IN ELEVATION ON ONE SIDE IS NEVER GREATER THAN 2 FEET HIGHER THAN THE OTHER SIDE.

HAND COMPACTION EQUIPMENT IS REQUIRED IN THE AREA WITHIN 1 FOOT OF THE CURVED ELEMENTS AND WITHIN 1 FOOT ADJACENT TO THE CONCRETE HEADWALL AND WINGWALLS. ALL BACKFILL SHALL BE GRANULAR BACKFILL AS PER MNDOT SPEC. 3149.2D MODIFIED TO A MAXIMUM OF 1" STONE IN THE MATERIAL. COMPACTION TO 95% DENSITY OS REQUIRED PER MNDOT SPEC. 2105.3F1 (AASHTO T-99).

TIE RODS SHALL BE GALVANIZED AS PER SPEC. 3392 OR POWER WASHED AND DIPPED IN AN APPROVED ZINC RICH EPOXY PRIME PAINT AFTER FABRICATION. THE LIST FOR APPROVED PAINT COATING OF CONCRETE PIPE TIES IS LOCATED ELECTRONICALLY AT
http://www.mrr.dot.state.mn.us/
PICK MATERIALS ENGINEERING SECTION,
PICK APPROVED PRODUCTS LIST.
STEEL SHALL CONFORM TO SPEC. 3306 OR EQUAL.

TIES TO BE USED ONLY TO HOLD PRECAST CONCRETE WINGWALLS TOGETHER, NOT FOR PULLING SECTIONS TIGHT.

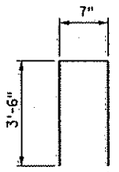
CONCRETE WALL BRACKET ASSEMBLIES, U-TIES FOR WINGWALL AND ANY REQUIRED HARDWARE (DETERMINED BY THE PRECAST SUPPLIER) FOR JOINING THE INPLACE ARCH ELEMENT TO THE PROPOSED ARCH ELEMENTS SHALL BE FURNISHED BY THE PRECAST SUPPLIER. INCLUDED IN PRICE BID FOR OTHER ITEMS.

② 4'-2" TALL C.I.P. CONCRETE WALL EXTENSION STRUCTURAL CONC. (3Y43).

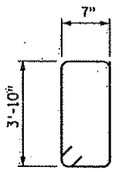
③ RUSTICATION SHALL BE AS SHOWN ON DETAIL BELOW AND CONSIDERED INCIDENTAL.

④ PRECAST CONCRETE SUPPLIER SHALL CAST BARS S1301E AND S1302E INTO PRECAST CONC. HEADWALL. REMAINING REINFORCEMENT IN PRECAST SECTIONS SHALL BE REQUIRED BY PRECAST SUPPLIER DESIGN.

⑥ REINFORCEMENT AS REQUIRED BY PRECAST SUPPLIER DESIGN.



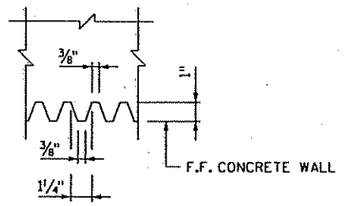
S1301E



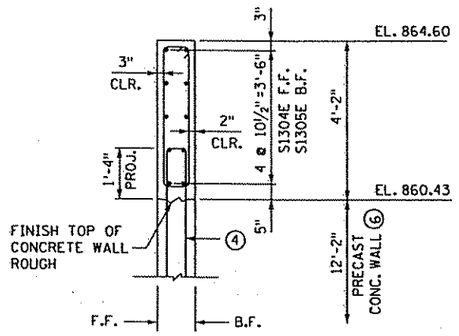
S1303E

BILL OF REINFORCEMENT CONCRETE HEADWALL

	BAR	NO.	LENGTH	SHAPE	LOCATION
④	S1301E	43	7'-7"	⊓	CONCRETE WALL DOWEL
④	S1302E	2	5'-6"	——	CONCRETE WALL DOWEL
	S1303E	43	9'-7"	□	CONCRETE WALL TIE
	S1304E	4	42'-5"	——	CONCRETE WALL HORIZ.
	S1305E	4	44'-1"	——	CONCRETE WALL HORIZ.



RUSTICATION DETAIL

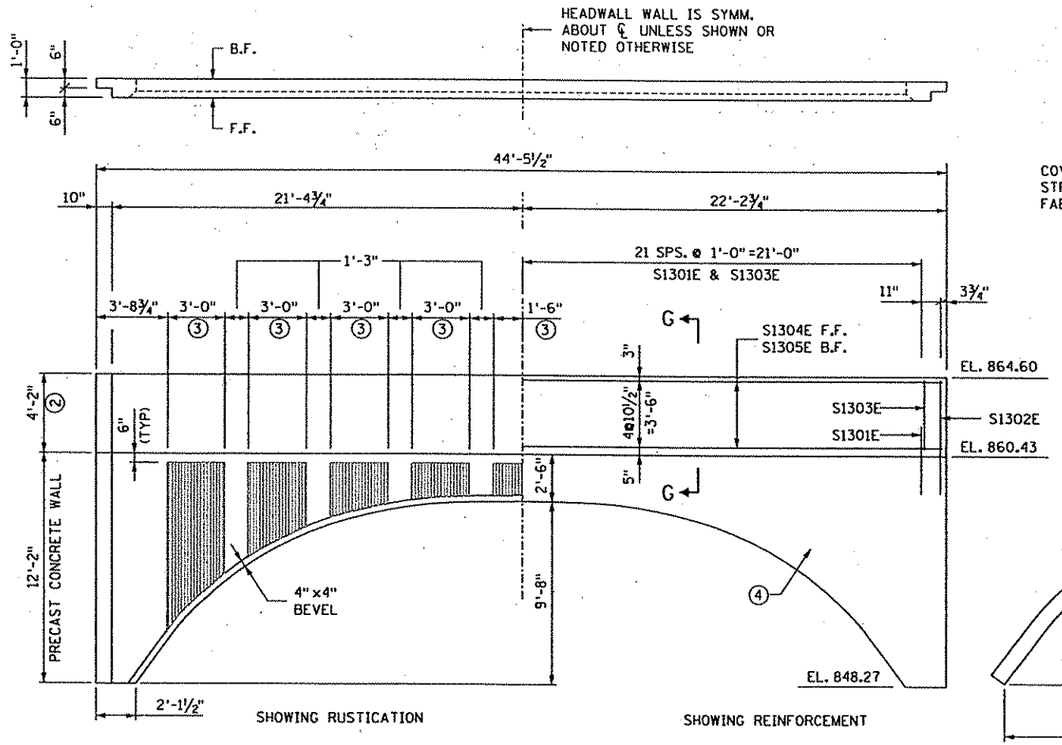


SECTION G-G

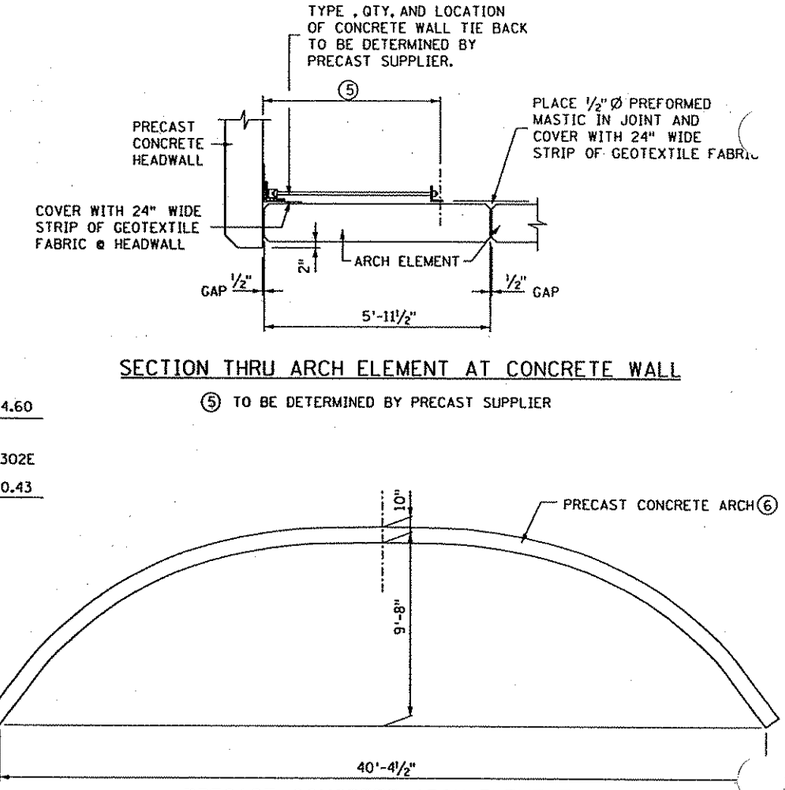
SUMMARY OF QUANTITIES - ARCH STRUCTURE

	ITEM	UNIT	QTY.
	STRUCTURAL CONCRETE (3Y43)	CU. YD.	7
	REINFORCEMENT BARS (EPOXY COATED)	POUND	790
	PRECAST CONCRETE WALL	SQ. YD.	30
	PRECAST REINF. CONC. ARCH 40'x10'	LIN. FT.	12
	PRECAST RETAINING WALL	SQ. YD.	50
①	1½"Ø MASTIC	LIN. FT.	150
①	GEOTEXTILE FABRIC, 24" WIDE	LIN. FT.	150
	WIRE FENCE, DESIGN W-1	LIN. FT.	78

① INCLUDED IN PRICE BID FOR OTHER ITEMS.



PRECAST CONCRETE WALL
INCLUDED IN PRICE BID FOR PRECAST CONCRETE WALL



SECTION THRU ARCH ELEMENT AT CONCRETE WALL

⑤ TO BE DETERMINED BY PRECAST SUPPLIER

PRECAST CONCRETE ARCH ELEMENT
INCLUDED IN PRICE BID FOR PRECAST REINF.CONC. ARCH 40'x10'

S.P. 02-611-29

URS — Thresher Square, 700 South Third Street, Minneapolis, MN 55415

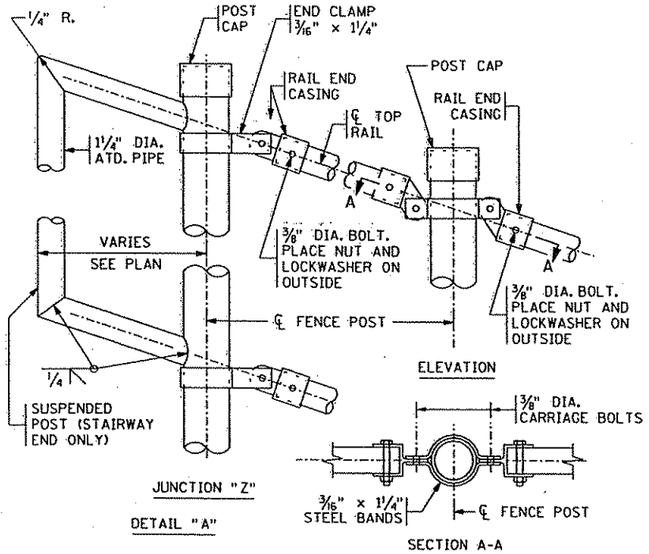
SIGNATURE
PRINTED NAME: MARK MAVES
DATE: JANUARY 8, 2007 REG. NO. 20496

TITLE: MISC. DETAILS & CONSTRUCTION NOTES

DES: DM	DR: DM	APPROVED:
CHK: MKM	CHK: LHC	

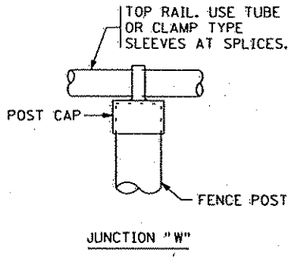
SHEET NO. B5 OF B8 SHEETS

BRIDGE NO. 95884

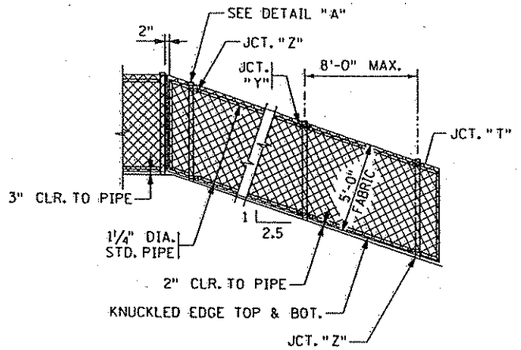


JUNCTION "T"
AN APPROVED ALTERNATE WILL BE CONSIDERED

POST CONNECTIONS ON WINGWALL



TOP OF INTERMEDIATE POST ON WINGWALL



PART ELEVATION ON WINGWALL

2 WAY CLAMP BENDING TABLE	
GRADE OF FENCE	Ø
0° TO 2°	0°
2° TO 6°	4°
6° TO 10°	8°
20° TO 24°	22°

GENERAL NOTES

LENGTH OF "WIRE FENCE, DESIGN W-1" FOR PAYMENT SHALL BE MEASURED BETWEEN THE CENTERS OF THE END RAILPOSTS.

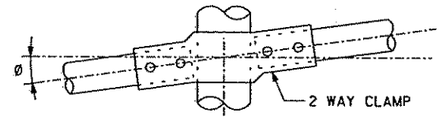
MAXIMUM SPACING FOR 2½" STANDARD PIPE POSTS IS 8 FT.

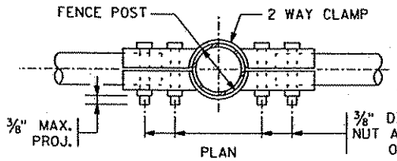
ALL PIPE DIAMETERS ARE NOMINAL.

FENCE POSTS SHALL BE SET VERTICAL. PACK SPACE BETWEEN BASE PLATE AND CONCRETE WITH APPROVED MORTAR AFTER NUTS HAVE BEEN ADJUSTED AND TIGHTENED.

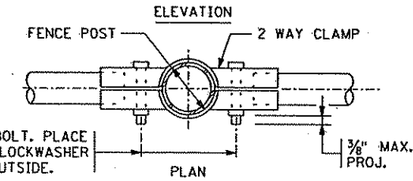
GALVANIZE ALL STRUCTURAL SHAPES PER MNDOT SPEC. 3394 AFTER FABRICATION.

① 5/8" DIA. CHEMICAL ANCHOR RODS, Mn/DOT SPEC. 3385, TYPE A, WITH 3" THREADS, 2 NUTS AND 2 CUT WASHERS PER ROD. MINIMUM ULTIMATE BOND STRENGTH SHALL BE 20,000 POUNDS, WITH A MINIMUM 5" EMBEDMENT LENGTH. SEE SPECIAL PROVISIONS.



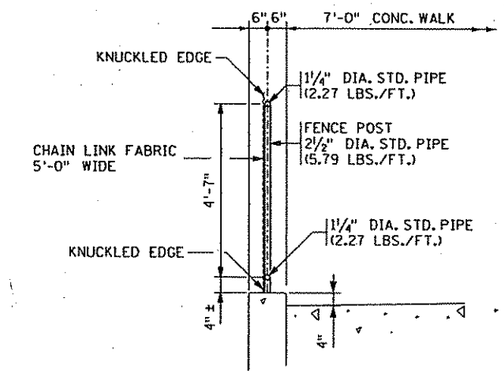


JUNCTION "X"

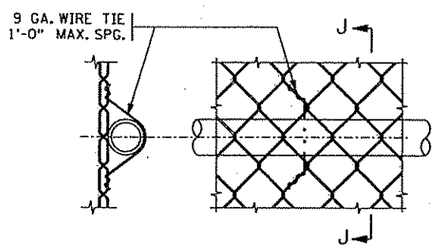


JUNCTION "Y"

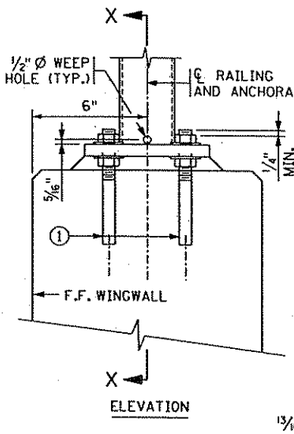
AN APPROVED ALTERNATE WILL BE CONSIDERED

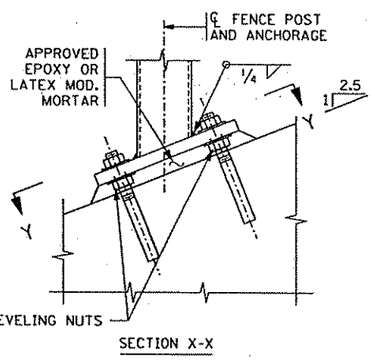


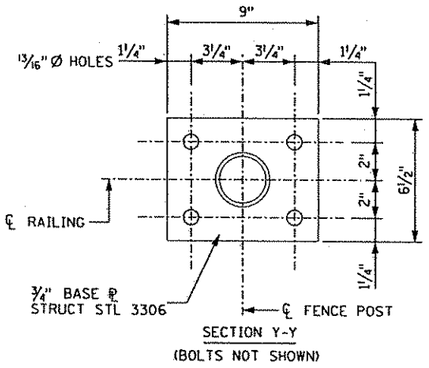
TYPICAL SECTION THROUGH WALKWAY



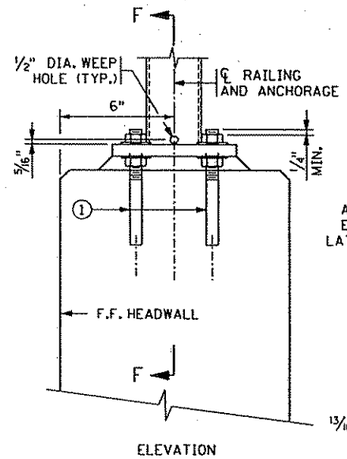
FABRIC TIE

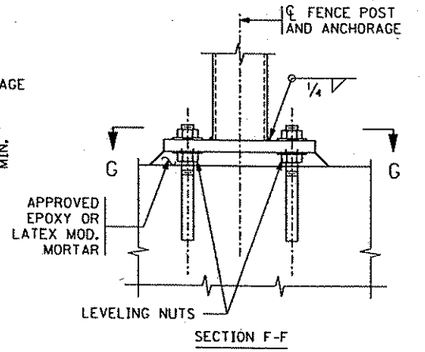


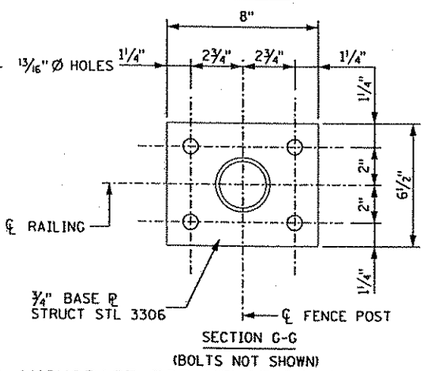




PIPE ANCHORAGE FOR FENCE POSTS-TYPE 1







BOLT ANCHORAGE FOR FENCE POSTS-TYPE 2

REVISION: 04-23-2003
APPROVED: NOVEMBER 26, 1985
STATE BRIDGE ENGINEER

CERTIFIED BY _____ JAN. 8,2007
LICENSED PROFESSIONAL ENGINEER — DATE
NAME: MARK MAVES LIC. NO. 20496

TITLE: 5 FT. WIRE FENCE (DESIGN W-1) FOR PEDESTRIAN BRIDGES

DES: MNDOT/DM | DR: DM
CHK: MKM | CHK: LHC
APPROVED: MODIFIED

S.P. 02-611-29
FIG. 5-397.202
BRIDGE NO. 95884
SHEET NO. B6 OF B8 SHEETS

1/8/2007 7:57:18 AM \\ursmsp\data\infrastructure\33889\538904\2\struct\cooncrkarch\plansht\BR9588401_RAL.dgn

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Bridge Survey Sheet (Sheet 1 of 2)

CONTRACTED PROFILE

SCALE: HOR. 1" = 100' VER. 1" = 10'

PLAT

SCALE: 1" = 100'

TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN

Area No. **Job No.** **State Proj. No.** ~~C.P. 82-09-78~~ ~~**Sheet No.** 23 **of** 24 **Sheets**~~

Fed. Proj. No.

INDEX MAP
(FOUR SECTIONS)

FOLLOW SEPARATE "INSTRUCTIONS FOR PREPARATION OF BRIDGE SURVEYS" WHEN MAKING BRIDGE SURVEYS.

DATA

1. Preliminary recommendations of Engineer in charge of Bridge Survey:
   - a. Net span length and type of bridge 40' - 4 1/2" - Reinforced Concrete Arch
   - b. Width of roadway on bridge ~~52' Face of Curb to Face of Curb~~
   - c. Number and width of sidewalks, if any
   - d. Locate center of bridge at station ~~29+95~~
   - e. If a skew bridge is recommended, the angle of skew should be
   - f. Is piling required? No
2. Special features: Waterfalls, dams, exceptional floods, ice, driftwood, sliding banks, logging, etc. None
3. Changes: In height or length from that of old bridge, and reasons why
4. Other bridges in vicinity:
   - a. Over same stream (particularly structures which carry high water without overflow of roadway); give location, length, height above water, net cross-sectional area at high water stage and estimated age Bridge No. 02530 (131st Ave. NW. over COON CREEK) 75-Ft. Single-Span, Prestressed conc. beams, 3'-Ft. above high water; Cross-Sectional area = 368 Sq. Ft.
   - b. Over or under same highway or railroad; give location, length, horizontal and vertical clearances and estimated age
   - c. Reasons why these bridges are, or are not, fair indications of what length the proposed bridge should be
5. If structure is over a drainage ditch, is ditch gradient liable to be altered? Future cleanout proposed to Elev. 846.2 with a 15' bottom width.
6. Navigation clearances required, if any None
7. Information and evidence in regard to high water stages was obtained as follows
8. Must contractor provide for traffic during construction of proposed bridge? No

   If so, by what means?

HYDRAULIC ENGINEERS RECOMMENDATION

Stream or ditch design, COON CREEK. Drainage area, 70 SQ. MILES (APPROX.). Design flood (50 yr. freq.) 820 C.F.S., Design highwater elev. 855.95. Design mean velocity through structure 3.2 F.P.S. Low superstructure at or above elev. 858.10. Flowline elev. 848.40. Skew angle - 0°. Waterway area req'd. below elev. 855.95 = 256 Sq. Ft. at Rt. angles to channel. In interest of flood plane zoning the regional flood (100 yr. freq.) is 1000 CFS. at stage 856.80 and mean velocity of 3.6 F.P.S. with 0.1 Ft. swellhead. The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Department of Natural Resources.

HIGH AND LOW WATER ELEVATIONS

Data obtained from .... reflects highest water elevation in the area of this construction to be .... and the lowest water elevation to be .... The above figures are for information-al purposes only. The state neither warrants nor represents that these figures for high water and low water are in any way indicative of the high water or low water to be expected or encountered during this construction.

SHIPPING POINT

Proposed Bridge is .... miles .... of

* .... which is the nearest

Railroad shipping point.

*(Give name of town, station or siding)

.... Date .... Project or County Engineer

.... Date .... District Engineer

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE SURVEY

FOR

PROPOSED BRIDGE LOCATED .... MILES .... OF

.... (TOWN OR CITY) ON .... (T.H., C.S.A.H. OR C.A.R. NUMBER)

SEC. .... TWP. .... R. ....

TOWNSHIP .... COUNTY ....

SURVEY MADE DURING MONTH OF .... 19 ....

SURVEY MADE BY ....

BRIDGE NO. ....

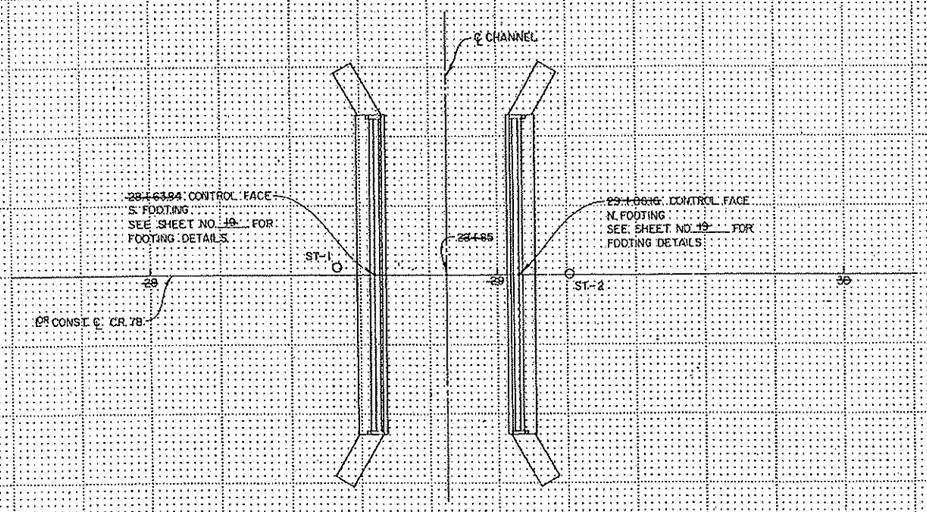
Rev. 5-24-83

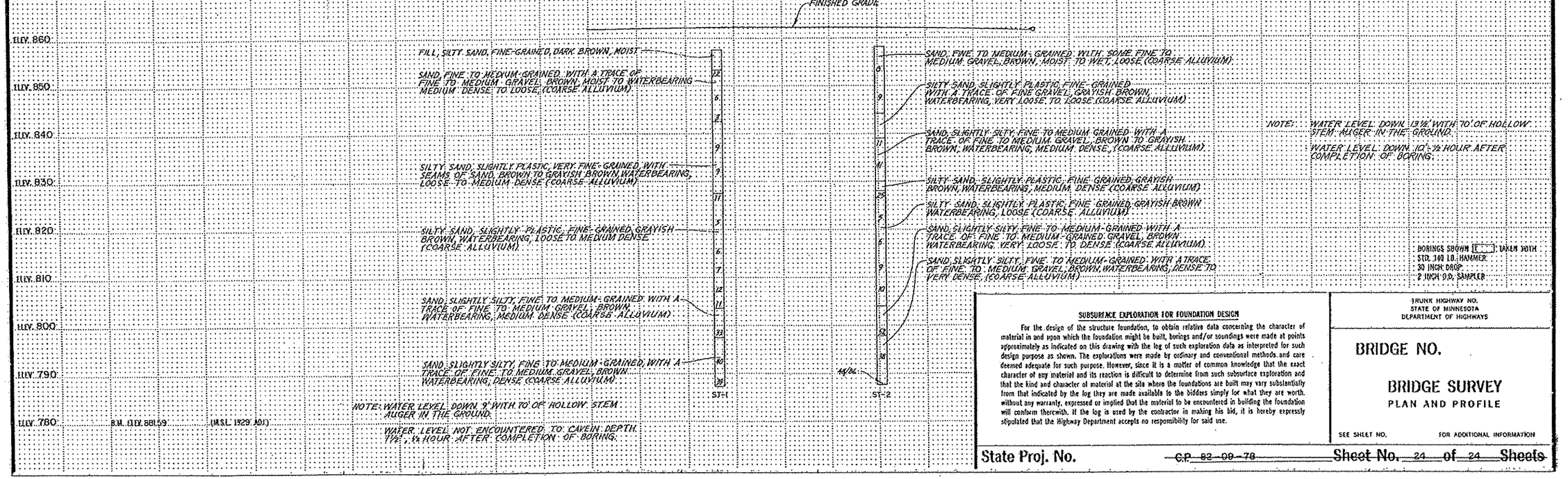
NOTE: SURVEY SHEET IS REPRODUCED FROM ORIGINAL BRIDGE PLAN SET DATED 3/4/83

BRIDGE SURVEY	CHK: DDL	DR: DM	BRIDGE NO. 95884
State Proj. No. 02-611-29	SHEET NO. B7 OF B8 SHEETS		

1/8/2007 7:57:29 AM \\ursmsp\data\Infrastructure\33889\sd889042\struct\concrkarch\plansht\BR9588402_SUR.dgn

SCALE: 1" = 10'





NOTE: WATER LEVEL DOWN 13½' WITH 70' OF HOLLOW STEM AUGER IN THE GROUND.
WATER LEVEL DOWN 10'-½ HOUR AFTER COMPLETION OF BORING.

BORINGS SHOWN [ ] TAKEN WITH
STD. 140 LB. HAMMER
30 INCH DROP
2 INCH O.D. SAMPLER

Bridge Survey Sheet (Sheet 2 of 2)

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN

For the design of the structure foundation, to obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing with the log of such exploration data as interpreted for such design purpose as shown. The explorations were made by ordinary and conventional methods and care deemed adequate for such purpose. However, since it is a matter of common knowledge that the exact character of any material and its reaction is difficult to determine from such subsurface exploration and that the kind and character of material at the site where the foundations are built may vary substantially from that indicated by the log they are made available to the bidders simply for what they are worth, without any warranty, expressed or implied that the material to be encountered in building the foundation will conform therewith. If the log is used by the contractor in making his bid, it is hereby expressly stipulated that the Highway Department accepts no responsibility for said use.

TRUNK HIGHWAY NO.
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO.

BRIDGE SURVEY
PLAN AND PROFILE

SEE SHEET NO. FOR ADDITIONAL INFORMATION

State Proj. No. ~~C.P. 82-09-78~~ Sheet No. 24 of 24 ~~Sheets~~

S.P. 02-611-29

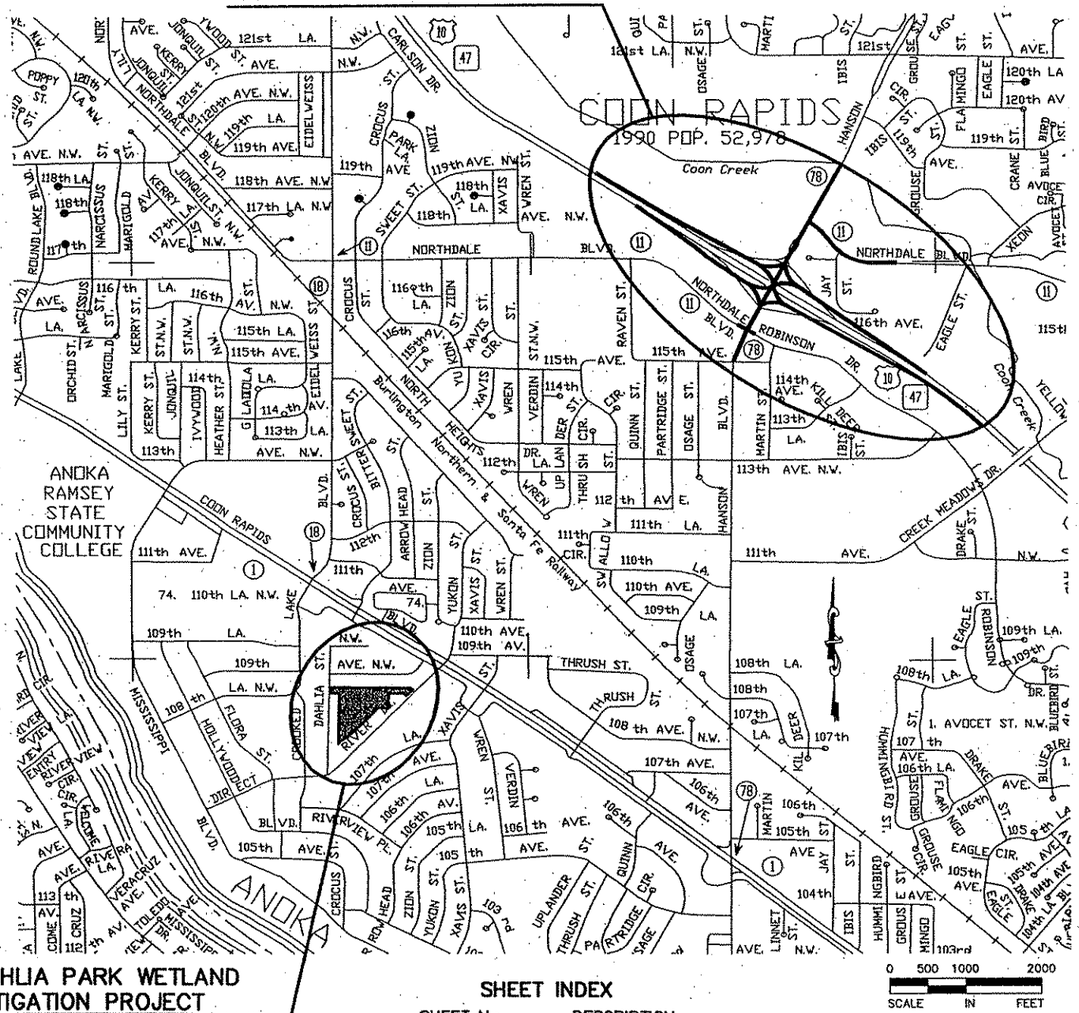
NOTE: SURVEY SHEET IS REPRODUCED FROM ORIGINAL BRIDGE PLAN SET DATED 3/4/83

BRIDGE SURVEY ~ PLAN AND PROFILE	CHK: DDL	DR: DM	BRIDGE NO. 95884
State Proj. No. 02-611-29	SHEET NO. B8 OF B8 SHEETS		

Ref'd Drawings
22x34bdr
coonmap

THE CITY OF COON RAPIDS
ANOKA COUNTY
DAHLIA PARK WETLAND MITIGATION PROJECT

HANSON BOULEVARD/
T.H. 10 INTERCHANGE PROJECT



DAHLIA PARK WETLAND MITIGATION PROJECT
S.P. 114-020-28
S.P. 02-678-17
S.P. 02-611-29
S.P. 114-010-14
S.P. 0215-59

SHEET INDEX

SHEET No.	DESCRIPTION
W1	DAHLIA PARK TITLE SHEET STATEMENT OF ESTIMATED QUANTITIES
W2	EXISTING CONDITIONS & REMOVALS
W3	GRADING PLAN – FINAL
W4	GRADING PLAN – SUBCUT
W5	MITIGATION POND DETAILS
W6	RESTORATION PLAN
W7–W8	LANDSCAPING PLAN
W9	TRAFFIC CONTROL

DAHLIA PARK WETLAND MITIGATION PROJECT [3] — AM

ITEM NO.	DESCRIPTION	NOTES	UNIT	PARTICIPATING INTERCHANGE S.P. 0215-59 S.P. 114-010-14 ESTIMATED QUANTITY
2101	CLEARING		TREE	15
2101	GRUBBING		TREE	15
2104	SALVAGE CONCRETE APRON		EACH	1
2104	REMOVE BOULDERS		LUMP SUM	1
2105	COMMON EXCAVATION (P)		CU YD	32072
2105	SELECT GRANULAR BORROW (CV) (P)		CU YD	100
2130	WATER		M GALLONS	50
2501	INSTALL CONCRETE APRON		EACH	1
2503	48" RC PIPE SEWER DES 3006		LIN FT	16
2503	CONNECT TO EXISTING STORM SEWER		EACH	1
2504	4" POLYSTYRENE INSULATION		SQ YD	210
2506	CONST. DRAINAGE STRUCTURE DESIGN 84-4020		LIN FT	9.1
2506	CASTING ASSEMBLY		EACH	1
2506	CONST. DRAINAGE STRUCTURE DESIGN SPECIAL 4	2	EACH	1
2511	RANDOM RIPRAP CLASS II		CU YD	30
2511	RANDOM RIPRAP CLASS III		CU YD	85.3
2511	GEOTEXTILE FILTER TYPE IV		SQ YD	332
2571	DECIDUOUS TREE 8' HT CONT		TREE	36
2571	DECIDUOUS TREE 10' HT B&B		TREE	11
2571	DECIDUOUS TREE 2" CAL B&B		TREE	49
2571	DECIDUOUS SHRUB 2' HT CONT		SHRUB	165
2571	PERENNIAL PLUGS		PLANT	4977
2573	SILT FENCE, TYPE MACHINE SLICED		LIN FT	6800
2573	TEMPORARY ROCK CONSTRUCTION ENTRANCE		EACH	1
2573	FILTER LOG TYPE STRAW BIOROLL		LIN FT	100
2573	SEDIMENT REMOVAL BACKHOE	1	HOUR	8
2575	SEEDING		ACRE	3.7
2575	MULCH MATERIAL TYPE 3		TON	8
2575	DISK ANCHORING		ACRE	3.7
2575	EROSION CONTROL BLANKETS CATEGORY 3		SQ YD	2325
2575	FERTILIZER TYPE 3		POUND	1300
2575	SEED MIXTURE 260		POUND	155
2575	SEED MIXTURE 330		POUND	80
2575	SEED MIXTURE 310		POUND	110

NOTES:
[1] FOR REMOVAL OF SEDIMENT TRAPPED IN RETENTION DEVICES OR DEPOSITED IN RETENTION POND.
[2] SEE STORM MITIGATION POND DETAIL SHEET FOR DRAINAGE OUTLET STRUCTURE DESIGN.
[3] PAY ITEMS AND QUANTITIES FOR THE DAHLIA PARK WETLAND MITIGATION ARE SHOWN ON THIS SHEET FOR REFERENCE ONLY. PAY ITEMS AND QUANTITIES DEPICTED ON SHEET W1 ARE INCLUDED IN THE OVERALL PROJECT SEQ ON SHEETS 3-8.

BASIS FOR ESTIMATED QUANTITIES:

SEED MIXTURE NO. 330:
84.5 LB/ACRE

SEED MIXTURE NO. 310 (WET):
82 LB/ACRE

SEED MIXTURE NO. 260:
100 LB/ACRE

TYPE 3 MULCH:
2 TON/ACRE

FERTILIZER TYPE 3 - (ANALYSIS 18-1-18):
400 LB/ACRE FOR SEED MIX 260
300 LB/ACRE FOR SEED MIXES 310 AND 330

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JJS
CHKED. BY: SAW | DWG. NAME: DAHL-CV01
DATE: JANUARY 8, 2007

URS
Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

DAHLIA PARK
WETLAND MITIGATION
DAHLIA PARK TITLE SHEET
SHEET INDEX
LOCATION MAP
TABULATIONS

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. W1 / W9

PLOT DATE: Jan 18, ...07 10:56am DISK FILE NAME: (16.1) R:\33889\33889042\DAHLIA-PARK\PLAN-SHT\PLAN-SH...307\DAHL-CV01-011507.dwg

Xref'd Drawings
DAHL_RM-LEGD
Dahlia_PATH
DAHL-ECN
DAHL-GIS-ETD
DAHL-ETO
REF-DWG-BD
[illegible]bdr

PROPERTY LINE (TYP.)
EXISTING FENCE
PROTECT DURING CONSTRUCTION
SALVAGE 48" RCP APRON
PROTECT EXIST. CATCH BASIN AND CURB & GUTTER
PROTECT TREES
PROTECT SANITARY MANHOLE
EX. RE = 848.07
EX. IE = 838.66
PROTECT SANITARY MANHOLE
EX. RE = 847.65
EX. IE = 838.41
PROTECT APRON
PROTECT EXISTING SANITARY SEWER
PROTECT TREES
TREE REMOVAL (TYP.)
CONTRACTOR SITE ENTRANCE
PROTECT EXISTING CURB, ROADWAY AND TREES DURING CONSTRUCTION
PROTECT TREE (TYP.)
PROTECT TREE
REMOVE 25-35 1'-5' DIA BOULDERS
OUTLOT 1
DAHLIA STREET NW
TERRACE 11TH ADDITION OF THOMPSON'S RIVERVIEW
MANOR
GOON RAPIDS
DIRECT RIVER DR NW
30" RCP
42" RCP
8" RCP
8" CLAY
8" RCP
TELE UG
TEL-UG
UHP
DHP
SHR

NOTES:
1) THE RIGHT-OF-WAY AND EASEMENTS SHOWN IN THIS PLAN GIVE GRAPHICAL LOCATIONS WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT-OF-WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT-OF-WAY PLATS.
2) CONTRACTOR IS REQUIRED TO CONTACT GOPHER STATE ONE CALL PRIOR TO BEGINNING ANY WORK.
3) SEE SHEET W6 FOR EROSION CONTROL MEASURES.

SCALE 0 30 60 IN FEET

REMOVALS LEGEND
- TREE REMOVAL
- EXISTING FENCE
- EXISTING APRON
- EXISTING STORM SEWER
- EXISTING SANITARY MH
- EXISTING SANITARY SEWER
- EXISTING 1.0' CONTOUR
- EXISTING 5.0' CONTOUR
- CONSTRUCTION LIMITS

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IRK | DESIGN BY: JJS
CHKED. BY: SAW | DWG. NAME: DAHL-REM01
DATE: JANUARY 8, 2007

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

DAHLIA PARK WETLAND MITIGATION
EXISTING CONDITIONS & REMOVALS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. W2 / W9

PLOT DATE: Jan 17 10:57am DISK FILE NAME: (16.1) R:\33889\33889042\DAHLIA-PARK\PLAN-SHT\PLAN-S

Xref'd Drawings
DAHL_GR-LEGD
Dahlia_PCN
Dahlia_PATH
DAHL-ECN
DAHL-GIS-ETO
DAHL-ETO
REF-DWG-BDR
22x34bdr

MH A, 4020-84" DIA (SUMP MH)
Mn/DOT A-7 ASSEMBLY
CONNECT TO EXIST. STORM SEWER
RE: 852.00
IE IN 845.94
SUMP IE 842.94

PLACE 19.4 CU. YDS. CLASS III RIPRAP PER MNDOT STD. PLATE 3133C

WETLAND PRETREATMENT BASIN

PLACE 30.0 CU. YDS. CLASS II RIPRAP
INSTALL MNDOT TYPE IV FABRIC BELOW RIPRAP
SEE DETAIL SHEET W5

PLACE 5.9 CU. YDS. CLASS III RIPRAP PER MNDOT STD. PLATE 3133C

INSULATE SANITARY SEWER PER DETAIL ON SHEET W5

INSTALL SALVAGED 48" RCP APRON
IE 845.92

16 LF-48" RCP @ 0.10%

SEE SHEET W5 FOR SECTION C-C

NWL 844.50

NWL (TYP.) 842

PLACE 10 CU. YDS. CLASS III RIPRAP
INSTALL MNDOT TYPE IV FABRIC BELOW RIPRAP, SEE DETAIL SHEET W5

OUTLET CONTROL STRUCTURE
SEE DETAIL SHEET W8

PRETREATMENT BASIN/WETLAND SPILLWAY
PLACE 50 CU. YDS. CLASS III RIPRAP
INSTALL MNDOT TYPE IV FABRIC BELOW RIPRAP

SEE GRADING INSET A

10 YR. WATER LEVEL (TYP.)

FUTURE TRAIL (BY OTHERS)

DAHLIA STREET NW

TERRACE 11TH ADDITION
THOMPSON'S RIVERVIEW

OUTLOT 1

MANOR 1

RAPIDS

DIRECT RIVER DR NW

30" RCP

42" RCP

8" CLAY

0.74%

6" MIN. LIFT

MUCK FILL 24"

COMPACTED MUCK 6" MINIMUM LIFTS

APPROVED, COMPACTED SUBGRADE

GRADING INSET A

GRADING LEGEND

- 854 EXISTING 1.0' CONTOUR
- 855 EXISTING 5.0' CONTOUR
- 844 PROPOSED 1.0' CONTOUR
- 845 PROPOSED 5.0' CONTOUR
- NORMAL WATER LEVEL
- 10 YEAR WATER LEVEL
- OR RIPRAP
- SANITARY SEWER INSULATION

NWL = 844.50'
10 YEAR WL = 846.26'
100 YEAR HWL = 847.08'
(SEE NOTE 5)

SCALE 0 30 60 IN FEET

NOTES:

1) THE RIGHT-OF-WAY AND EASEMENTS SHOWN IN THIS PLAN GIVE GRAPHICAL LOCATIONS WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT-OF-WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT-OF-WAY PLATS.

2) THE CONTOURS SHOWN ARE FINISHED GRADE CONTOURS ONLY. THE CONTRACTOR SHALL SUBCUT 2.0' FROM FINISHED GRADE WITHIN THE AREA OF THE 847.00 CONTOUR (SEE GRADING PLAN-SUBCUT SHEET W4). ALL AREAS FROM THE 847.00 CONTOUR AND ABOVE SHALL BE CUT TO THE FINISHED GRADE ONLY. PAYMENT FOR SUB CUTTING OF SOIL TO THE 847.00 CONTOUR, SHALL BE PAID FOR AS COMMON EXCAVATION.

3) IN ALL SUBCUT AREAS, THE CONTRACTOR SHALL PLACE PREVIOUSLY EXCAVATED MUCK (AS PART OF THE INTERCHANGE PROJECT-SEE SPECIAL PROVISIONS) TO THE FINISHED GRADE. THE MUCK SHALL BE PLACED IN MINIMUM 6" LIFTS AND SHALL BE COMPACTED. SEE GRADING INSET A FOR ADDITIONAL INFORMATION.

4) THE CONTRACTOR SHALL BE RESPONSIBLE FOR STAGING DURING THE CONSTRUCTION OF THE WETLAND. THE EXISTING DRAINAGE SHALL REMAIN FUNCTIONAL THROUGHOUT THE PROJECT.

5) 100 YEAR AND 10 YEAR WATER LEVELS ARE BASED ON ANALYSIS OF LOCAL DRAINAGE AREA WITH FREE OUTFALL AT OUTLET STRUCTURE.
24 HOUR - 4.2" RAINFALL - 10 YEAR
24 HOUR - 5.9" RAINFALL - 100 YEAR
TAILWATER CAUSED BY FLOOD LEVELS IN DOWNSTREAM DITCH NOT CONSIDERED IN HIGH WATER DETERMINATION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JJS
CHKED. BY: SAW | DWG. NAME: DAHL-GD01
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19881

DAHLIA PARK WETLAND MITIGATION
GRADING PLAN
FINAL CONTOURS

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. W3 / W9

PLOT DATE: Jan 11, 10:57am DISK FILE NAME: (16.1) R:\33889\33889042\DAHLIA-PARK\PLAN-SHT\PLAN-SHT-GD01-011507.dwg

Xref's Drawings
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DAHL_SUB-PGN
Dehlic_PATH
DAHL-TIN
DAHL-GIS-ETG
DAHL-ETG
REF-DNG-BDR
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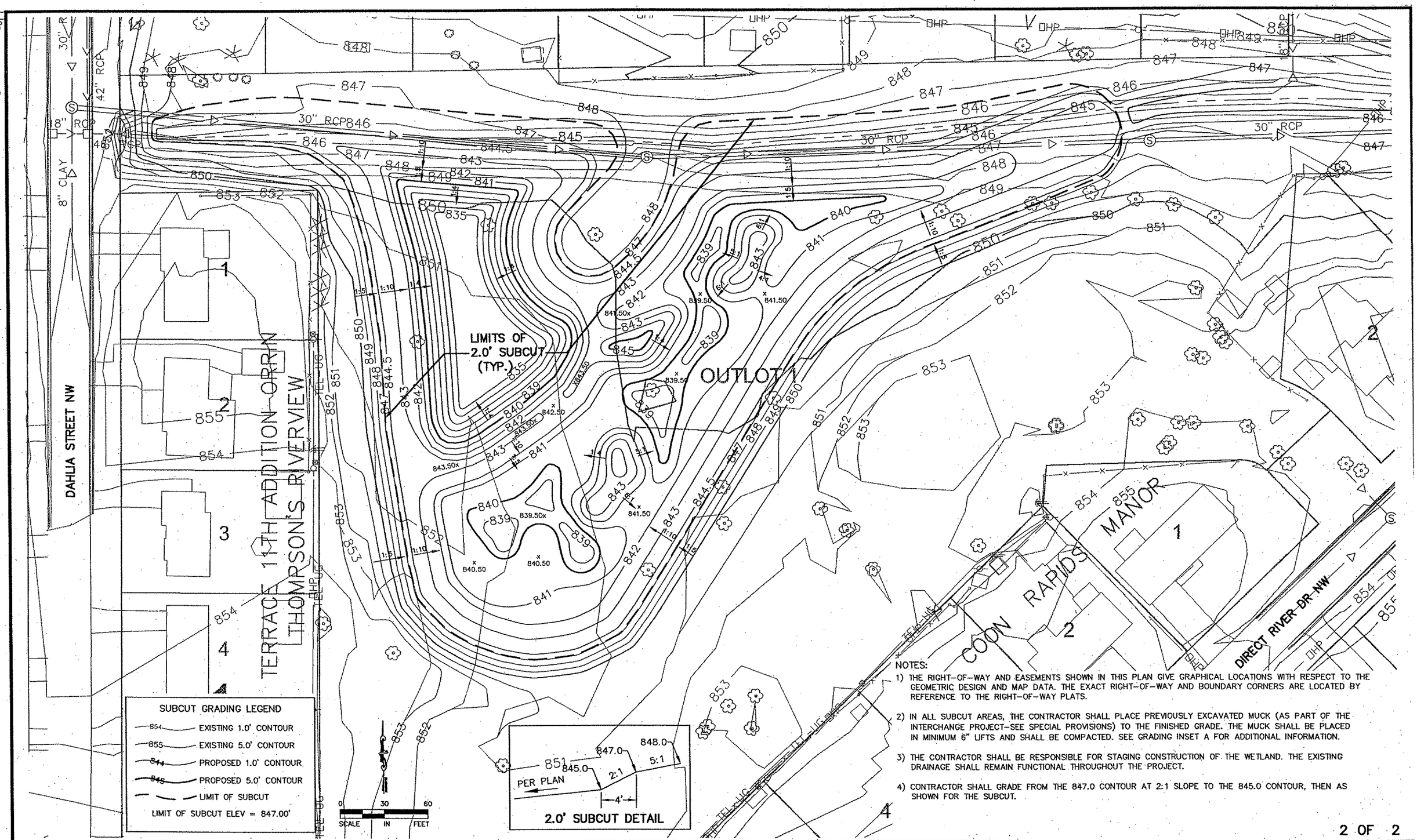

NOTES:

1) THE RIGHT-OF-WAY AND EASEMENTS SHOWN IN THIS PLAN GIVE GRAPHICAL LOCATIONS WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT-OF-WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT-OF-WAY PLATS.

2) IN ALL SUBCUT AREAS, THE CONTRACTOR SHALL PLACE PREVIOUSLY EXCAVATED MUCK (AS PART OF THE INTERCHANGE PROJECT-SEE SPECIAL PROVISIONS) TO THE FINISHED GRADE. THE MUCK SHALL BE PLACED IN MINIMUM 6" LIFTS AND SHALL BE COMPACTED. SEE GRADING INSET A FOR ADDITIONAL INFORMATION.

3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR STAGING CONSTRUCTION OF THE WETLAND. THE EXISTING DRAINAGE SHALL REMAIN FUNCTIONAL THROUGHOUT THE PROJECT.

4) CONTRACTOR SHALL GRADE FROM THE 847.0 CONTOUR AT 2:1 SLOPE TO THE 845.0 CONTOUR, THEN AS SHOWN FOR THE SUBCUT.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JJS
CHKED. BY: SAW | DWG. NAME: DAHL-GD02
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Karl P. Keel

KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

DAHLIA PARK WETLAND MITIGATION

GRADING PLAN

SUBCUT GRADING

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. W4 / W9

PLOT DATE: Jan 16, 07 10:58am DISK FILE NAME: (16.1) R:\33889\33889042\DAHLIA-PARK\PLAN-SHT\PLAN-SUBCUT GRADING.dwg

Xref Drawings
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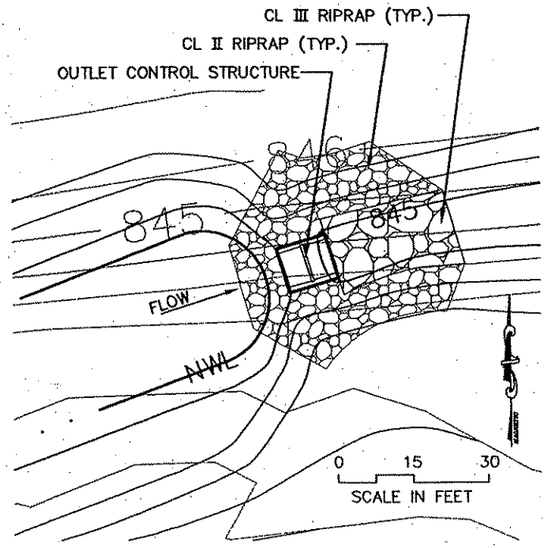
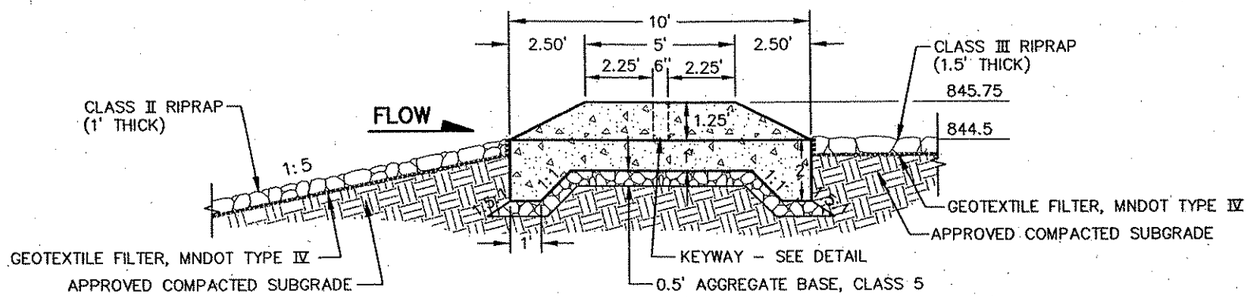
WEIR_DET
Dahlia_PCN
DAHL-ECN
REF-DWG-BDR
22x34bdr





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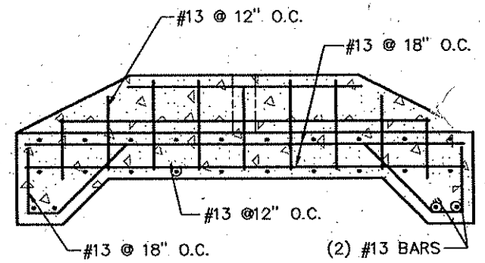

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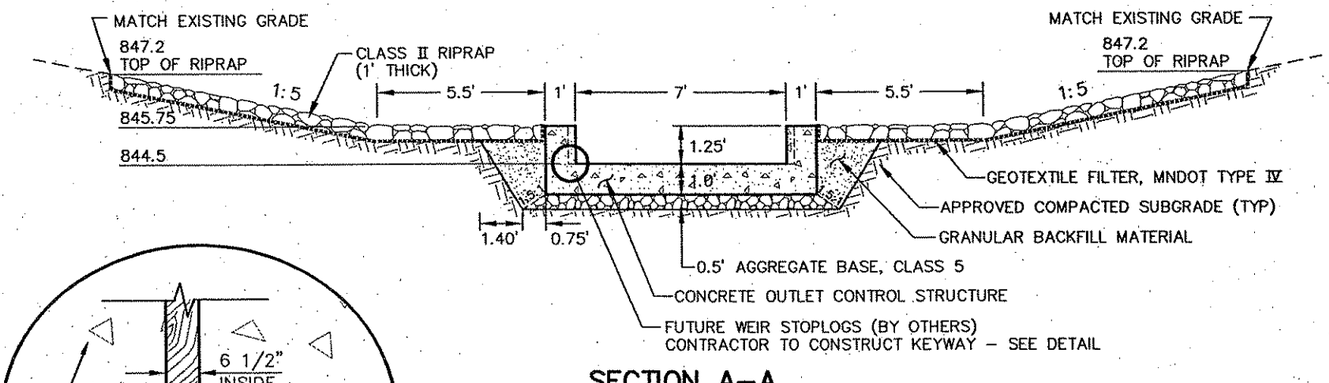
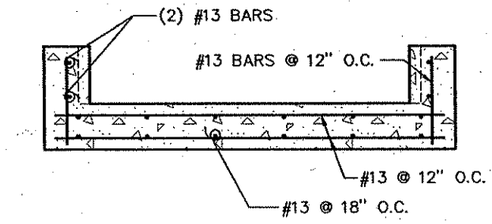
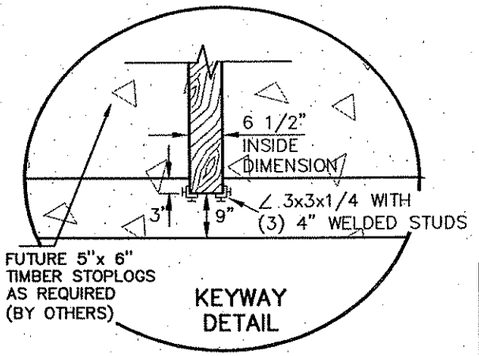
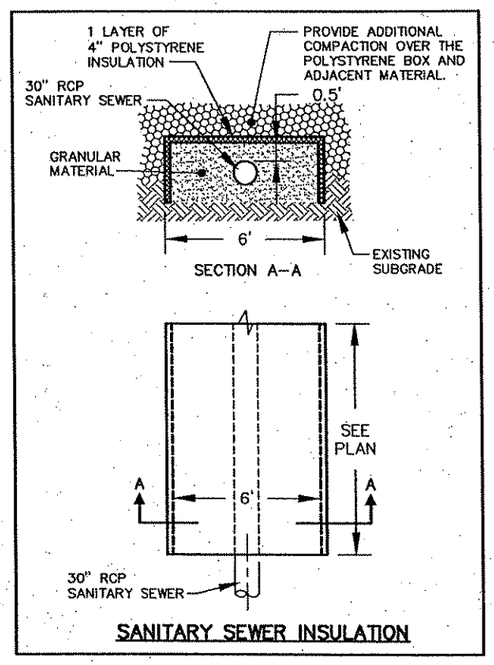
NOT TO SCALE



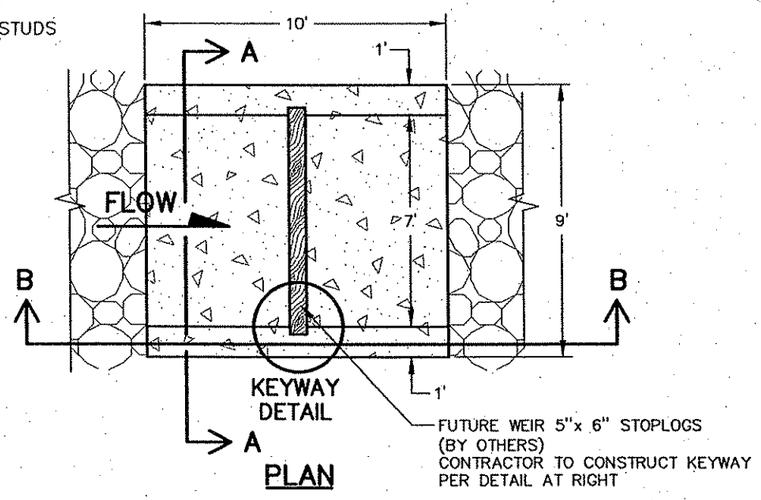
SECTION A–A





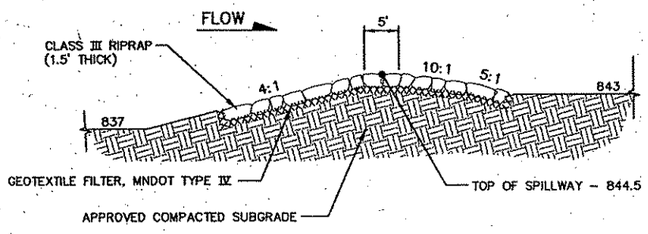


SANITARY SEWER INSULATION



PLAN

OUTLET CONTROL STRUCTURE
DRAINAGE STRUCTURE DESIGN SPECIAL 4



SECTION A–A REINFORCEMEN

NOT TO SCALE

WETLAND SPILLWAY
SECTION C–C

NOT TO SCALE

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JJS
CHKED. BY: SAW | DWG. NAME: DAHL-DET01
DATE: JANUARY 8, 2007

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

DAHLIA PARK
WETLAND MITIGATION
MITIGATION POND DETAILS
OUTLET CONTROL STRUCTURE DETAILS
SANITARY SEWER INSULATION DETAIL

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. W5 / W9

PLOT DATE: Jan 16, 2007 10:59am DISK FILE NAME: (16:1) R:\33889\33889042\DAHLIA-PARK\PLAN-SHT\PLAN-SHT\DAHL-DET01-011507.dwg

Xref'd Drawings
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DAHL-MASK
Dahlia_TURF
Dahlia_PATH
Dahlia_PCN
DAHL-ECN
-GIS-ETC

PLOT DATE: Jan 16, / 10:59am DISK FILE NAME: (16:1) R:\33689\33889042\DAHLIA-PARK\PLAN-SHT\PLAN-ST...07\DAHL-TE01-011507.dwg

DAHLIA STREET NW

TERRACE 11TH ADDITION ORR'N
THOMPSON'S RIVERVIEW

FILTER LOGS

FILTER LOGS

1
PLACE MACHINE SLICED SILT FENCE TO PROTECT DITCH WHILE CONSTRUCTING MAIN WETLAND.

2

OUTLOT A

CONTRACTOR TO CONSTRUCT AND MAINTAIN TEMPORARY HAUL ROAD AS NECESSARY

ROCK CONSTRUCTION ENTRANCE

MANOR 2

RAPIDS 3

COON 4

DIRECT RIVER DR NW

NOTE:
THE RIGHT OF WAY AND EASEMENTS SHOWN IN THIS PLAN GIVE GRAPHICAL LOCATIONS WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT-OF-WAY PLATS.

0 30 60
SCALE IN FEET

RESTORATION LEGEND
- MACHINE SLICED SILT FENCE
- EROSION CONTROL BLANKET CATEGORY 3
- MNDOT SEED MIXTURE 260CT
- MNDOT SEED MIXTURE 330NWT
- MNDOT SEED MIXTURE 310NWT

REV. NO.	BY.	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JJS
CHKED. BY: SAW | DWG. NAME: DAHL-TE01
DATE: JANUARY 8, 2007

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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

DAHLIA PARK WETLAND MITIGATION
RESTORATION PLAN
EROSION CONTROL
TURF ESTABLISHMENT

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. W6 / W9

Xref'd Drawings
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Dahlia_TURF
Dahlia_PATH
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DAHL-GIS-ETC
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REF-[illegible]
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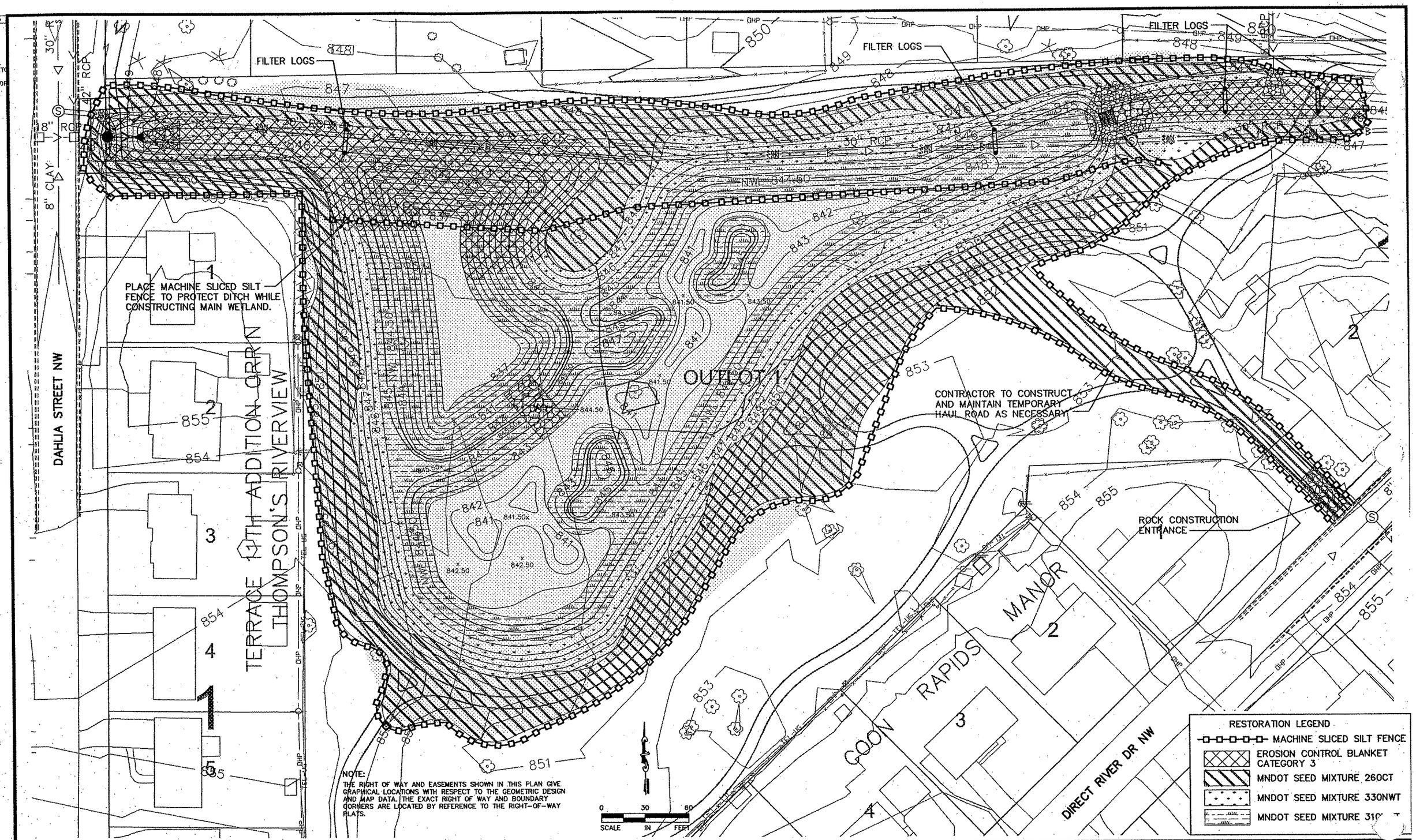

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JJS
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Karl P. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

DAHLIA PARK WETLAND MITIGATION
RESTORATION PLAN
EROSION CONTROL
TURF ESTABLISHMENT

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. W6 W9

PLOT DATE: Jan 16, / 10:59am DISK FILE NAME: (16.1) R:\33889\33889042\DAHLIA-PARK\PLAN-SHT\PLAN-SH 07\DAHL-TE01-011507.dwg

Xref'd Drawings
con-notes
REF-DWG-BDR
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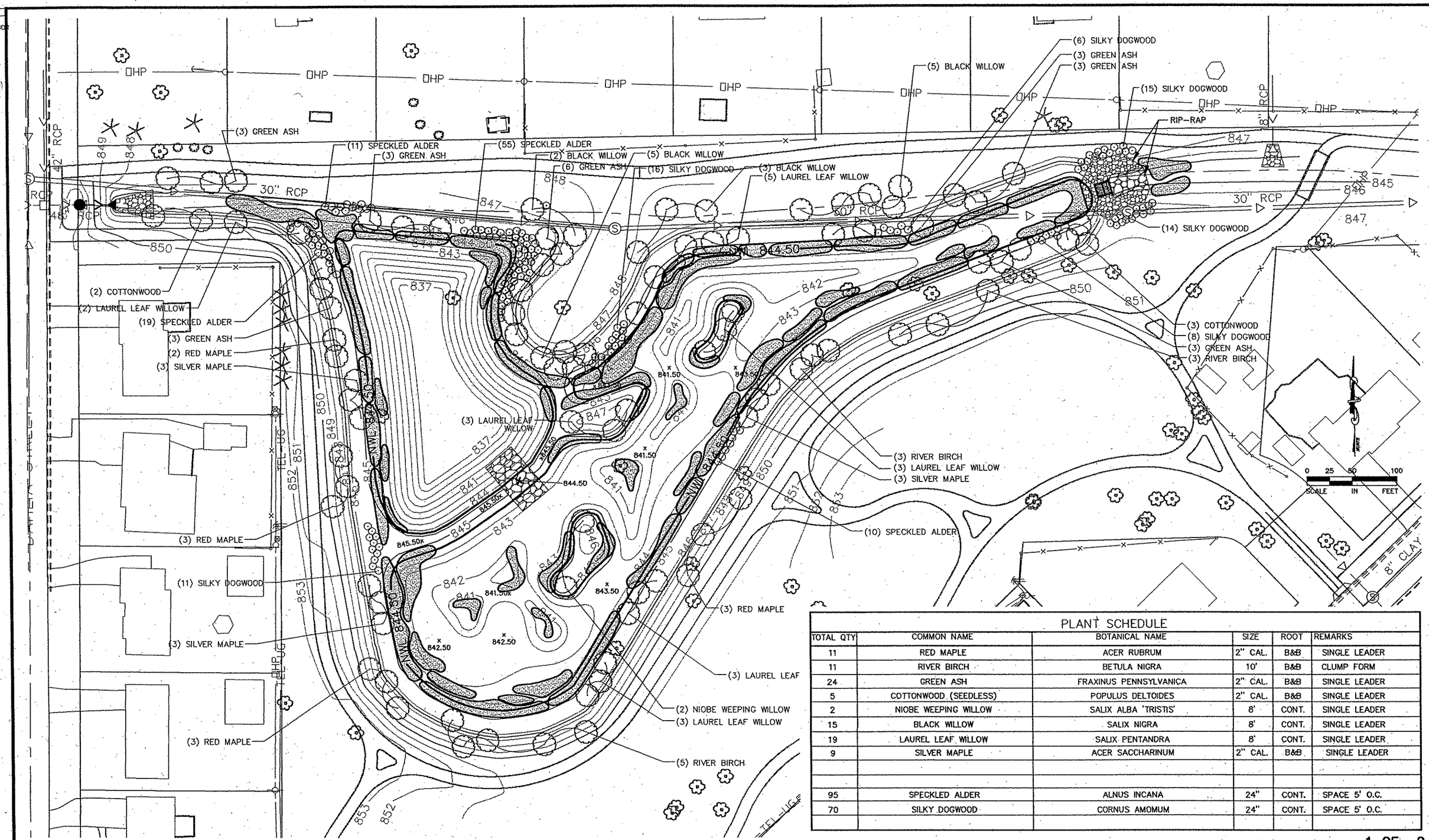

PLANT SCHEDULE

TOTAL QTY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
11	RED MAPLE	ACER RUBRUM	2" CAL.	B&B	SINGLE LEADER
11	RIVER BIRCH	BETULA NIGRA	10'	B&B	CLUMP FORM
24	GREEN ASH	FRAXINUS PENNSYLVANICA	2" CAL.	B&B	SINGLE LEADER
5	COTTONWOOD (SEEDLESS)	POPULUS DELTOIDES	2" CAL.	B&B	SINGLE LEADER
2	NIOBE WEEPING WILLOW	SALIX ALBA 'TRISTIS'	8'	CONT.	SINGLE LEADER
15	BLACK WILLOW	SALIX NIGRA	8'	CONT.	SINGLE LEADER
19	LAUREL LEAF WILLOW	SALIX PENTANDRA	8'	CONT.	SINGLE LEADER
9	SILVER MAPLE	ACER SACCHARINUM	2" CAL.	B&B	SINGLE LEADER
95	SPECKLED ALDER	ALNUS INCANA	24"	CONT.	SPACE 5' O.C.
70	SILKY DOGWOOD	CORNUS AMOMUM	24"	CONT.	SPACE 5' O.C.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: SW
DESIGN BY: SW
CHKED. BY: JJS
DWG. NAME: DAHL-LSC-1
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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STEVEN C. WYCZAWSKI
DATE: 1/8/2007 MN LIC. NO. 16958

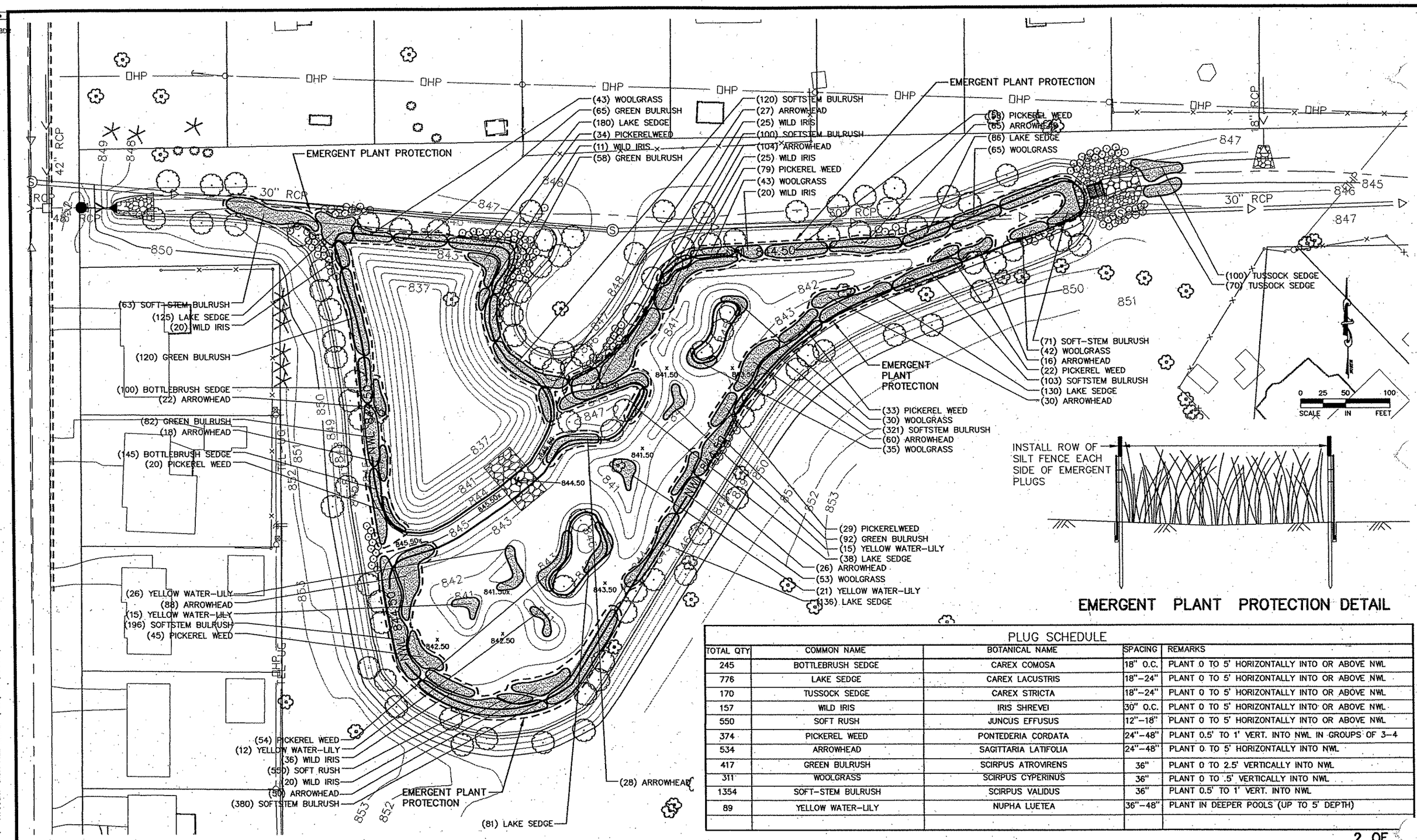
DAHLIA PARK WETLAND MITIGATION
LANDSCAPE PLAN

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. W7 / W9

PLOT DATE: Jan 16, 7 11:00am DISK FILE NAME: (16:1) R:\33889\33889042\DAHLIA-PARK\PLAN-SHT\PLAN-SHT\DAHL-LSC-1-011507.dwg

Xref'd Drawings
con-notes
REF-DWG-BDR
22x34bdr



INSTALL ROW OF SILT FENCE EACH SIDE OF EMERGENT PLUGS

EMERGENT PLANT PROTECTION DETAIL

PLUG SCHEDULE

TOTAL QTY	COMMON NAME	BOTANICAL NAME	SPACING	REMARKS
245	BOTTLEBRUSH SEDGE	CAREX COMOSA	18" O.C.	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
776	LAKE SEDGE	CAREX LACUSTRIS	18"–24"	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
170	TUSSOCK SEDGE	CAREX STRICTA	18"–24"	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
157	WILD IRIS	IRIS SHREVEI	30" O.C.	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
550	SOFT RUSH	JUNCUS EFFUSUS	12"–18"	PLANT 0 TO 5' HORIZONTALLY INTO OR ABOVE NWL
374	PICKEREL WEED	PONTEDERIA CORDATA	24"–48"	PLANT 0.5' TO 1' VERT. INTO NWL IN GROUPS OF 3–4
534	ARROWHEAD	SAGITTARIA LATIFOLIA	24"–48"	PLANT 0 TO 5' HORIZONTALLY INTO NWL
417	GREEN BULRUSH	SCIRPUS ATROVIRENS	36"	PLANT 0 TO 2.5' VERTICALLY INTO NWL
311	WOOLGRASS	SCIRPUS CYPERINUS	36"	PLANT 0 TO .5' VERTICALLY INTO NWL
1354	SOFT-STEM BULRUSH	SCIRPUS VALIDUS	36"	PLANT 0.5' TO 1' VERT. INTO NWL
89	YELLOW WATER-LILY	NUPHA LUETEA	36"–48"	PLANT IN DEEPER POOLS (UP TO 5' DEPTH)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	PMJ	1/15/07	REVISED PER TEP COMMENTS

DESIGN FILE: 33889-042
DRAWN BY: SW | DESIGN BY: SW
CHKED. BY: JJS | DWG. NAME: DAHL-LSC-2
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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STEVEN WYCZAWSKI
DATE: 1/8/2007 MN LIC. NO. 16958

DAHLIA PARK WETLAND MITIGATION
LANDSCAPE PLAN – PLUGS

CITY PROJECT	01–31	S.P.	0215–59
S.P.	02–678–17	S.P.	02–611–29
		S.P.	114–020–28
		S.P.	114–010–14

SHEET NO. W8 / W9

PLOT DATE: Jan 18 11:00am DISK FILE NAME: (16:1) R:\33889\33889042\DAHLIA-PARK\PLAN-SHT\PLAN-SH...907\DAHL-LSC-2-011507.dwg

ard Drawings
22x34bdr
coonmap

NOTE
CONTRACTOR TO USE COUNTY ROADS FOR HAUL ROUTE TO HANSON BLVD/ TH10 INTERCHANGE.

ANOKA RAMSEY STATE COMMUNITY COLLEGE

COON RAPIDS BLVD.

Northern & Santa Fe Railway

NORTH Burlington HEIGHTS

NORTHDALE BLVD.

ROBINSON DR.

TRUCKS HAULING

ROAD WORK AHEAD

0 250 500 1000
SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-042
DRAWN BY: IKR | DESIGN BY: JJS
CHKED. BY: SAW | DWG. NAME: DAHL-TRCTL
DATE: JANUARY 8, 2007

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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Karl F. Keel
KARL KEEL
DATE: 1/8/2007 MN LIC. NO. 19681

DAHLIA PARK WETLAND MITIGATION
TRAFFIC CONTROL

CITY PROJECT	01-31	S.P.	0215-59
S.P.	02-678-17	S.P.	02-611-29
		S.P.	114-020-28
		S.P.	114-010-14

SHEET NO. W9 / W9

PLOT DATE: Jan 16 11:01am DISK FILE NAME: (16:1) R:\33889\338890402\DAHLIA-PARK\PLAN-SHT\PLAN-SH. 507\DAHL-TRCTL-011507.dwg